DOCUMENT RESUME

ED 363 251 HE 026 915

TITLE	Higher Education, New York's Opportunity Industry: Sharing the Challenge. Report of the New York State Regents' Commission on Higher Education.
INSTITUTION	New York State Dept. of Education, Albany. Regents Commission on Higher Education.
SPONS AGENCY	Andrew W. Mellon Foundation, New York, N.Y.; Ford Foundation, New York, N.Y.
PUB DATE	Sep 93
NOTE	52p.; Photographs and color graphics may not copy well.
PUB TYPE	Reports - Descriptive (141) -- Viewpoints (Opinion/Position Papers, Essays, etc.) (120)
EDRS PRICE	MF01/PC03 Plus Postage.
DESCRIPTORS	Change Strategies; College Administration; *College Role; *Demography; Educational Change; Educational Planning; *Financial Problems; Futures (of Society); Governance; *Higher Education; Long Range Planning; Needs Assessment; Social Change; *Statewide Planning; Student Costs; *Technological Advancement
IDENTIFIERS	*New York

ABSTRACT

An independent commission evaluated the needs of New York State higher education into the 21st century and made recommendations for meeting those needs within the changing economic and social circumstances of the state and the nation. The Commission's report begins with an overview of higher education in New York, examines three areas of major change influencing the future (the nature of work, demography, and technology), and reviews the coming financial challenges. Within that context, 35 recommendations are made representing the most important steps to be taken to prepare higher education for the next century. Key conclusions include these: that higher education is one of the most vital functions of society; that all sectors are integral parts of the system; that state revenues and family resources will be limited for the foreseeable future; that students will have to pay a substantial share of costs; that institutional missions must be central to planning; that higher education must take advantage of new technologies; and that the state should empower higher education to manage its affairs. A population density map, charts, data tables, and graphs illustrate the report. A list of individuals consulted by the commission is appended. (MSE)

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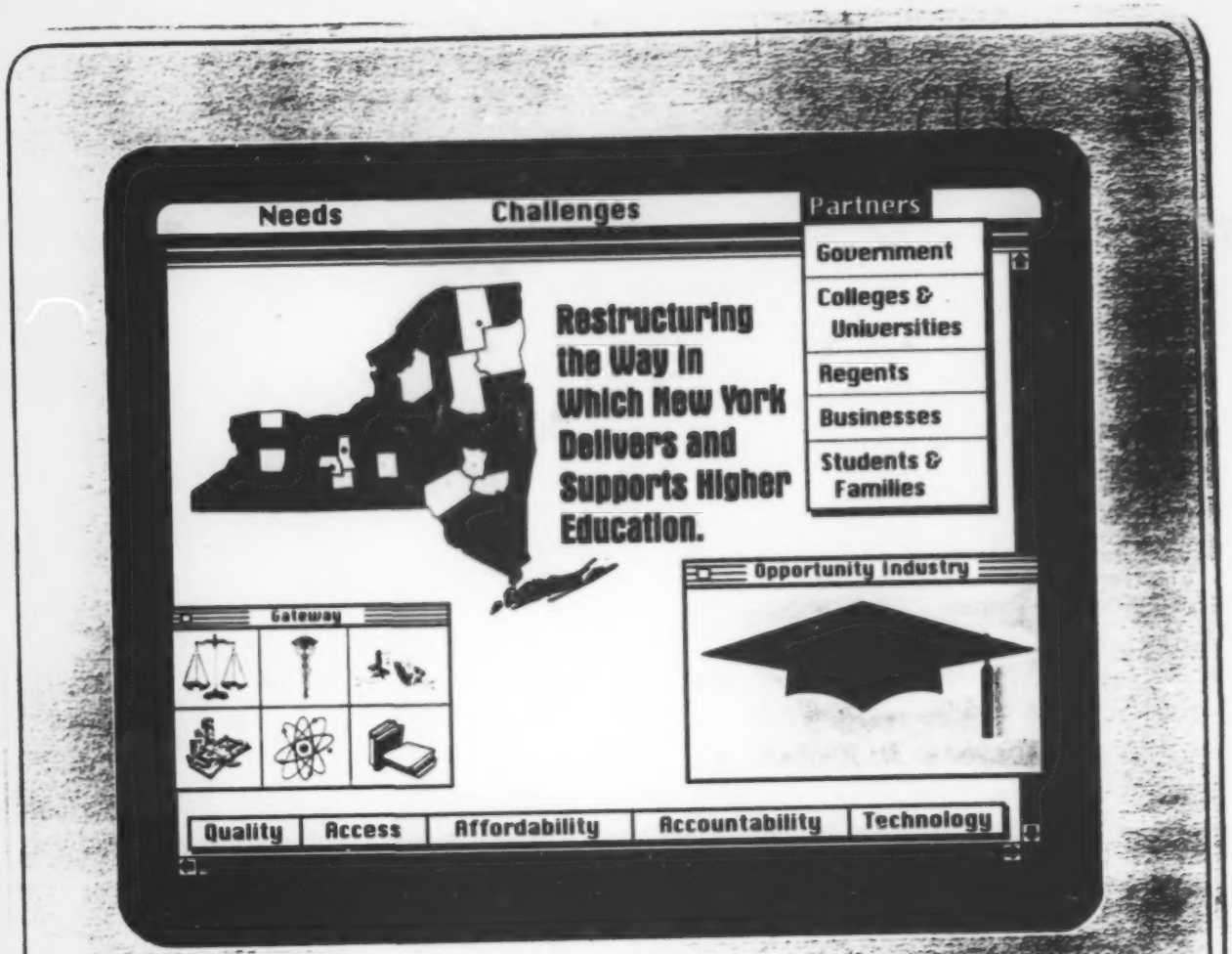

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Sharing the Challenge

Report of the New York State Regents Commission on Higher Education

September 1993

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HIGHER EDUCATION
NEW YORK'S OPPORTUNITY INDUSTRY:

Sharing the Challenge

Report of
the New York State
Regents Commission on Higher Education

Albany, New York
September 1993

The work of the Regents Commission on Higher Education, including the production and printing of this report, has been funded entirely from contributions generously made by the following foundations and corporations:

The Andrew W. Mellon Foundation
The Ford Foundation
Chemical Bank
Citibank
Corning Enterprise
KeyCorp
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Acknowledgments

The Regents Commission on Higher Education was funded by generous grants from the Andrew W. Mellon Foundation and the Ford Foundation. Its work was also supported by contributions from Chemical Bank, Citibank, Corning Enterprise, Merrill Lynch & Co., New York Telephone Company, and Texaco Service, Inc. KeyCorp supplemented these gifts by providing a part-time staff position for the Commission as well as space, administrative services, and for production of the Report, the assistance of William M. Stewart, Vice President, Manager of Corporate Communications. The Commission expresses its gratitude to all of these contributors.

The Commission expresses its appreciation to Governor Mario M. Cuomo and to the Chairman of the New York State Assembly Higher Education Committee, The Honorable Edward C. Sullivan, and to the Chairman of the Senate Higher Education Committee, The Honorable Kenneth P. LaValle, for their interest and valuable advice. It has had the great benefit of discussions with many individuals and groups, most particularly the chief executives and other spokespersons and staff of the City University of New York, the State University of New York, the Commission on Independent Colleges and Universities, and the Association of Proprietary Colleges. These organizations have provided valuable information and advice and have been fully responsive to requests for assistance. A list of persons with whom the Commission and staff have consulted is appended.

The Commission owes its existence to the New York State Board of Regents. It acknowledges with appreciation the encouragement and support it has received from the Board, its Chancellor, The Honorable Carlos Carballada, and the Commissioner of Education, Thomas Sobol. They have provided help when asked, but have not interfered in any way with the work of the Commission or imposed any conditions on it.

The New York State Education Department is the administrative arm of the Regents. The Deputy Commissioner for Higher and Professional Education, Donald J. Nolan, and Assistant Commissioner for Policy Analysis, Barbara W. Flynn, and their staffs have responded generously to information requests from the Commission and its staff.

Early in its deliberations the Commission was grieved to learn of the death of one of its members, Father Timothy Healy, President of the New York Public Library. His wise counsel was profoundly missed.

In order to keep the focus on its message, the Commission has chosen to omit footnotes and references from the Report. It acknowledges the contributions of the large numbers of people whose work it has consulted and without which it could not have completed its task. A listing of monographs, journals, newspaper articles and other documents principally drawn upon, is available upon request.

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Chairman's Letter

To The Honorable Carlos Carballada, Chancellor, New York State Board of Regents:

A year ago you asked me to chair a Commission to address a developing crisis in higher education. As you described it, reductions in State funding for higher education during recent years were eroding the quality of programs and threatening New York's long-established commitment to access and choice. At the same time, rising tuitions were bringing the cost of college attendance to levels beyond the means of many. In light of these and other concerns, you asked us to consider the needs of the people of New York for higher education into the 21st century and to recommend what can be done to meet those needs, given the realities of the State and national economies.

We are well aware that over the years the State and people of New York have made a tremendous investment in higher education in the belief that higher education is New York's economic, social and cultural gateway to opportunity. The returns on this investment have been manifest to almost everyone. Now we are coming to the further realization that higher education is a unique form of renewable energy that powers the knowledge-based industries that are New York's best promise for the future.

In recent years, however, as the economy weakened and as tuitions rose at a pace considerably in excess of inflation, there has been a progressive erosion of support for higher education and a corresponding deterioration in quality.

We began our work, therefore, with four basic questions:

1. What returns justify the investment in higher education?
2. *Is* the higher education asset eroding?
3. Why be concerned **now**?
4. What must be done?

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What Returns Justify the Investment in Higher Education?

The investment has been great and the returns enormous. To note a few of the returns:

- Colleges and universities are the State's engine for economic growth. They do the research that generates future development and they provide the educated work force that is a key factor in attracting and retaining private and public enterprises of all kinds.
- The "higher education industry" directly contributes nearly $40 billion to the State's economy, eight percent of the total annual output of goods and services. In many communities the college is the major industry.
- Higher education plays a key role in breaking the cycle of poverty thus reducing the burden on other social services, most of which carry for the taxpayer a far larger price tag than education.
- Virtually every significant advance in knowledge and new technology originates with college-educated people, often in university laboratories. The leaders in almost every walk of life are college-educated.
- Higher education is an integral part of society's system for setting and monitoring standards for all of the licensed professions, helping to assure the public of the quality of professional services.

- This country's leadership in world affairs whether political, economic, scientific or cultural, derives from its colleges and universities and the knowledge, understanding, and language skills learned there, without which such leadership is impossible.
- For the individual, the returns include such measurable benefits as enhanced lifetime earnings and steadier and more satisfying employment, but there also are hard-to-measure rewards in cultural and artistic appreciation, civic participation and many others.

Is the Higher Education Asset Eroding?

I regret to say that we have had to conclude that the higher education asset is eroding:

There has been erosion in State support. In the fiscal year 1992-93, State appropriations for all higher education purposes were eight percent lower than they had been four years previously, an inflation-adjusted loss to higher education institutions of nearly one billion dollars. The cutbacks have caused reductions in faculty and staff, the deferral of essential maintenance and, particularly in independent institutions, use of an increasing proportion of tuition revenues for student financial aid. These recent decreases have come at the close of a 20-year period during which higher education's share of State and local funding declined despite steady increases in enrollment, while the shares of other government functions grew, some quite dramatically.

I regret to say that we have had to conclude that the higher education asset is eroding.

There has been erosion in affordability. In the last decade, while the Consumer Price Index increased 41 percent, the cost of college to students and their families nearly doubled in most institutions. This change, coupled with increased pressures on family budgets, leads many families to worry that they will not be able to send their children to the college of their choice, or perhaps to send them at all. Federal student assistance has shifted predominantly from grant aid to loans. Loans place a heavy future burden on all students and, for the most needy, may be an insurmountable psychological hurdle. State support for student aid, though generous and steadily increased in amount, has not kept pace with need.

There has been erosion in quality. The effects of the erosion in quality may take years to become fully evident. However, anyone who walks on a campus can see deteriorating facilities, crowded laboratories and classrooms, and long lines for services. There is diminished ability to attract and hold the very best faculty, a rise in the proportion of courses taught by part-time faculty (now nearly 50 percent in the City University of New York), a reduction in the availability of courses needed for graduation, a decline in library acquisitions, failure to acquire cutting-edge equipment and failure to keep pace with rapidly advancing information technologies.

Why Be Concerned Now?

Serious as are the signs that the investment in higher education is threatened, demographic, technological and work force changes are creating new demands on higher education that severely test its ability to respond. They are changes that it cannot control but that have direct and significant impact on costs.

As a reflection of the demographic changes occurring in society, the profile of college students is changing to include many more ethnic minorities, recent non-English speaking immigrants, persons with disabilities, and persons who are older and with limited family or personal resources. All these groups require services often not provided to "traditional" students in the

past, all therefore involving additional costs that must somehow be met if higher education is to remain a gateway to opportunity and to continue as one of the State's growth industries.

New information and telecommunications technologies are revolutionizing the creation, organization and dissemination of knowledge; they are profoundly affecting the State's role in the global economy; and they are transforming the nature of work and expanding the demand for highly skilled, very adaptable workers who must be continuously learning to retain their jobs and prepare for multiple career changes throughout their working lives.

These same technologies offer exciting possibilities for helping higher education meet the challenges before it. The costs of integrating the new technologies in higher education will be great, but failure will be even more costly in terms of lost opportunities for necessary improvements in the efficiency and effectiveness of higher education and its capacity to continue to play a leadership role in the Information Age.

What Must Be Done?

Money alone is not the answer. We can see only one real answer: Higher education and the State must provide leadership for a major restructuring of the way in which New York delivers and supports higher education.

For the colleges and universities this means thoughtful redirection of current resources to new and more cost-effective ways of reaching their goals. Above all, higher education must embark on a path that will demonstrate to the public and to the State that it is committed to significant change while preserving the best of its traditional roles.

Money alone is not the answer. We can see only one real answer: Higher education and the State must provide leadership for a major restructuring of the way in which New York delivers and supports higher education.

For the State, too, there are difficult choices. State policymakers must recognize that higher education is much more than a needed public service. Essential as are other governmental services, higher education is an asset on which the future wealth and social and political vitality of the State largely depend. That asset is in jeopardy. To preserve the investment already made and to receive its returns in the years ahead, the State along with local governments must make the choice to provide the resources necessary to enable higher education to serve New York into the 21st century.

This report contains 35 specific recommendations designed to address the challenges we have identified. We call for taking advantage of the fortunate circumstance that because of the unique structure of higher education in New York, the State's public and private institutions can function as a single system. We call on the State to recognize that the sectors have unique as well as common strengths and concerns, and to address them accordingly.

We acknowledge an apparent contradiction in our recommendations when we speak on the one hand about limited public resources and on the other, call for a number of funding increases. We have addressed this dilemma by identifying only those increases that promise a return on the State's investment in higher education and by urging everyone to treat cost-effectiveness as equal in importance to the historic goals of access with choice and quality.

Sharing the Challenge: A Call to Action

Above all, we would challenge each of the partners – State and local governments, the business community, families and students, the colleges and universities and the Regents – to

share in the effort to maintain higher education as New York's "Opportunity Industry."

To State and local governments: Work with higher education in planning for the necessary level of investment to assure that New York's higher education system is prepared to serve the people of the State well into the next century; make the investment; give higher education the authority and the flexibility to achieve mutually agreed upon goals; and hold it accountable for a high return on the public's investment.

To the business community: Share your experience and your concerns with the higher education community; support higher education both with your resources and with your political influence on State government; hold higher education to significant standards of performance in the preparation of the kind of skilled work force you require; and join with higher education as it reaches out to deliver educational services to the world.

Above all, we would challenge each of the partners – State and local governments, the business community, families and students, the colleges and universities and the Regents – to share in the effort to maintain higher education as New York's "Opportunity Industry."

To families and to students: Create a learning environment in the home; pursue learning and career goals vigorously; share in meeting the costs.

To the colleges and universities: Recreate your institutions through a critical review of current programs and methods and embrace new approaches that include, but go well beyond, using the new technologies. Many in higher education have not heard the wake-up call for change, nor has the imperative that all programs and activities be cost-effective permeated the offices, schools, and departments on most campuses. With costs that continue to grow, higher education is at risk of pricing itself out of the market. Therefore, show the State, the business community and the public that you are ready to lead in a collaborative effort to maintain New York's historic preeminence in higher education.

To the Board of Regents: Provide the leadership, as the overarching educational authority in New York, to bring together all the parties in a collaborative effort to set goals for substantial and lasting change; follow through with specific plans and programs to meet these goals; monitor progress in meeting these goals; and widely publicize the process and its results.

A Personal Word

Speaking as a concerned citizen and business man, I am reminded every day of experiences and learning from my college years to which I can attribute current understanding and an ability to make decisions. *We cannot send our children and our grandchildren into an unknown future and refuse to provide the range, depth and quality of advanced education upon which their well-being and that of the State depend.*

With my colleagues on the Commission and from them, I have learned a tremendous amount over the past few months, and I am grateful for that opportunity. I fully endorse the findings and recommendations of the Commission and hope that they will be helpful to you and your colleagues on the Board of Regents, and through your important work, to the people of the Empire State.

For the Commission,

Victor J. Riley, Jr.
Chairman
September 1993

INTRODUCTION

After World War II both public and private higher education in New York experienced several decades of nearly uninterrupted growth in enrollment, scope of program and support. It was a period when – with only brief interruptions – both State and national economies were generally strong. Reflecting the growth, college costs increased at both public and private institutions. State and local funding and modest tuition increases enabled public institutions to meet these rising costs. The independent institutions met them with more substantial tuition increases. Personal income was rising during the period, and as long as the economy was strong, there was little resistance to these increases.

Competition for public funding

By the 1970s, higher education faced increasing competition from other governmental functions for support from tax funds, particularly for welfare, corrections, debt service, and a number of environmental and infrastructure requirements. Higher education costs continued to rise, as did tuitions, but in the competition with other functions, higher education's share of State and local tax revenues declined. Moreover, as tuition increases began affecting the ability of many students to attend the institutions of their choice, those institutions offered more and more financial aid, much of it coming from further tuition increases.

When recession hit New York late in the 1980s, State revenues faltered and along with them, support for all State services including higher education. When sizable tuition increases were initiated in the public institutions beginning in 1991, parents and students were further alarmed.

With the sharp reductions in State support that began in mid-year 1990-91, higher education adjusted by eliminating or reducing services and programs that had been expanded in more affluent times. As the tight economy persisted, the impact of rising costs and stagnant or declining revenues forced institutions to slash the number of full-time teachers and postpone needed maintenance and capital outlays that affected the quality of their offerings and the numbers of students they could effectively serve.

New demands on higher education resources

Even while institutions were resorting to a wide variety of cost-cutting methods, they experienced new demands on their resources as faculty and students sought access to powerful new computing and telecommunications tools. While promising economies at some future time, these new technologies meant an immediate heavy investment in hardware, software and human resources if higher education were to keep pace with changes in the rest of an increasingly knowledge-based economy.

The net result of all of these changes was that by 1992 higher education had suffered an inflation-adjusted loss of State revenues of nearly one billion dollars; tuition in public institutions had been nearly doubled in just three years; independent institutions were providing sums approaching a billion dollars in so-called unfunded financial aid; every institution was expressing alarm at what it saw in the future, and parents and taxpayers were seriously questioning their ability to continue to afford higher education.

Commission on higher education mission

The Board of Regents shared that alarm and decided to appoint an independent commission to consider the needs for higher education into the 21st century and to make recommendations on how to meet those needs, given the realities of State and national economies and the changing circumstances in which higher education will need to function. This Commission, composed of 18 members from throughout the nation (see list of members on the inside front cover), began work in October 1992 and concludes its task with this Report.

The Report begins with an overview of higher education in New York, examines three areas of major change that will influence the future – the nature of work, demography and technology – and then concludes the background with a review of the coming financial challenges for the State and higher education. With that as context, the Report presents 35 recommendations that represent the Commission's collective judgment on the most important, though by no means the only, steps that should be taken to prepare higher education for the 21st century.

To help the message be heard, the Commission has kept this report brief, providing only the most essential explanation of recommendations and omitting the vast amount of supporting arguments and documentation that would have increased the length without adding to the weight of the case. The Commission urges the Regents and all those in positions of influence in higher education, in government and in the community to read the entire Report, decide what most needs to be done, establish priorities and act to turn recommendations into reality.

BACKGROUND

Higher education in New York State is a complex enterprise. It consists of 248 public and private degree-granting colleges and universities (more than in any other state), ranging in size from fewer than 100 students to more than 25,000. As the accompanying map shows, campuses are located throughout the State, many concentrated in the major population centers, but at least one is to be found within 25 miles of almost every resident.

The institutions include a wide diversity of types: comprehensive research and teaching universities with programs in almost every academic field; narrowly specialized institutions with one or only a few programs; and a large number of colleges offering primarily programs in the liberal arts. There are two-year institutions with a range of occupational and transfer programs; four-year colleges, some with one or more master's degree programs; and universities offering several hundred undergraduate, graduate and professional programs. Collectively the 248 institutions offer some 18,000 formal programs that lead to degrees in virtually any field available anywhere.

Higher Education Structure in New York State

Collectively, all public and private colleges and universities are part of an organizational structure unique to New York State, the University of the State of New York, headed by the Board of Regents. New York Education Law vests in the Regents the authority to "exercise legislative functions concerning the educational system of the state" and to "determine its educational policies" (Article 5, Section 207).

In the manner of coordinating boards in many states, the Board of Regents has planning, coordinating and regulatory functions; but its purview in education is much wider than in other states, extending from preschool through graduate school and including libraries, museums, and the licensing and discipline of the major professions. The Board's authority includes promulgating standards for academic program approval in public and private institutions, and providing a degree of quality assurance unique in the nation through registering and de-registering degree programs. The State Education Department is the administrative arm of the Board of Regents.

Governance

Eighty-three of the institutions are publicly supported and governed by boards appointed by public authorities; 139 are independent with self-perpetuating governing boards; and 26 are degree-granting proprietary institutions. The publicly supported colleges and universities are organized into two great systems: the City University of New York (CUNY) with 19 institutions, and the State University of New York (SUNY) with 64 institutions.

On virtually any measure – enrollments, range of programs, prestige – private colleges and universities predominated in New York until well after the Legislature created the State University of New York in 1949. Dramatic growth in campus facilities and in enrollments in the public sector during the 1960s and 1970s brought a new measure of balance to the total system.

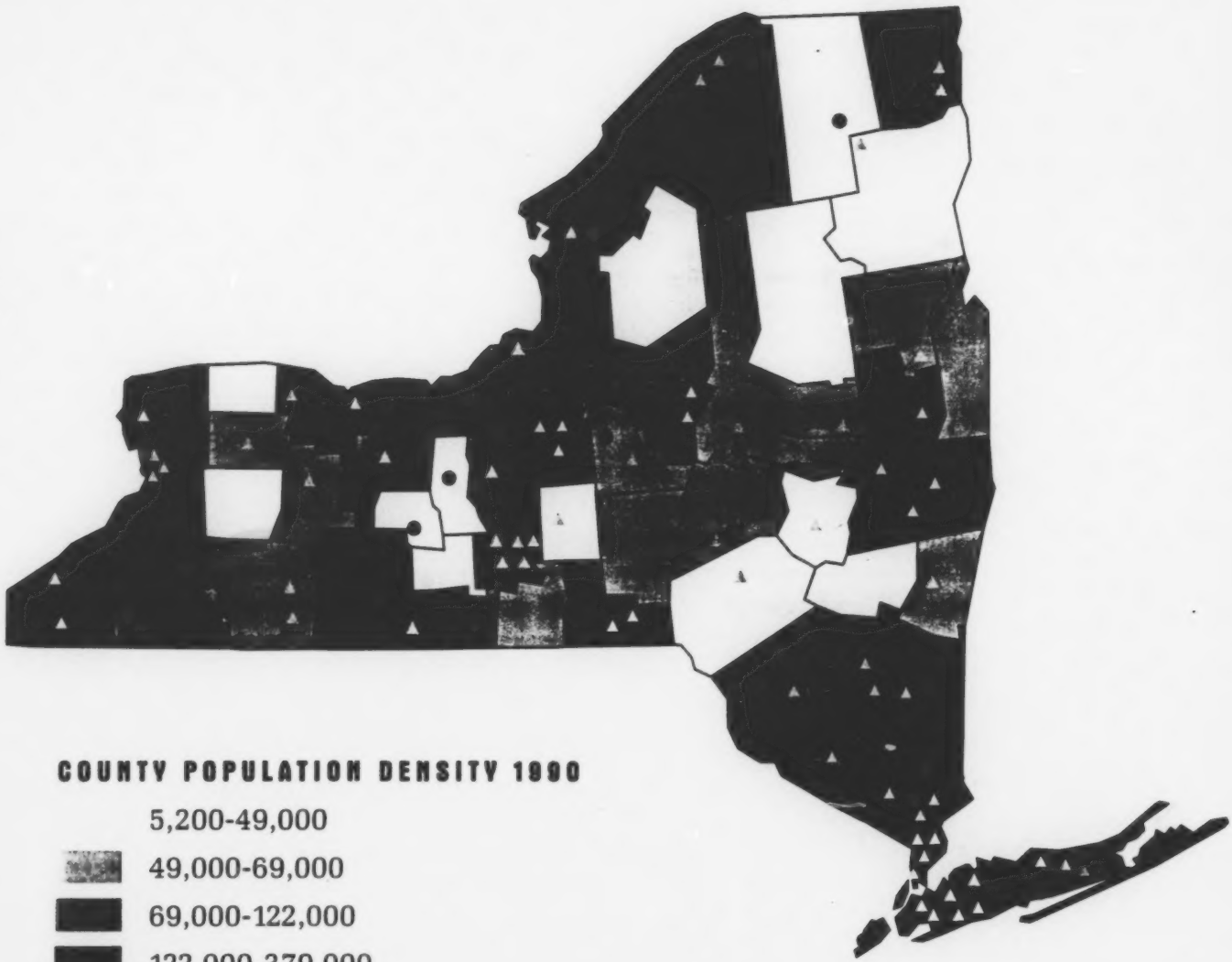
Enrollments

Altogether, in Fall 1992 New York colleges and universities enrolled more than a million students. There were nearly 203,000 in the City University alone, and nearly 405,000 in the State University. More than a third of the students were part-time. Of the 843,000 undergraduates, 64 percent were in public and 36 percent in private institutions. Among SUNY and CUNY undergraduates, half were in community colleges. At the graduate and first professional degree levels, the enrollment proportions were reversed: two-thirds were in the independent institutions and only one-third in the two public systems.

Investment in the system

Support for all public and private higher education activities, including research and community service, is shared by State, Federal and local governments, students and their families and private donors. In 1991, of a total of more than $14 billion in current fund revenues for the public and private colleges and universities in New York State, the State provided $3.3 billion in direct and indirect funding; $1.2 billion came from the Federal

Colleges and Universities in New York State



COUNTY POPULATION DENSITY 1990

- 5,200-49,000
- 49,000-69,000
- 69,000-122,000
- 122,000-379,000
- 379,000 +

- Public
- Private

New York City	
Public	23
Private	61

government, largely for research; students and their families paid a total of $4.5 billion in tuition and fees and another $1.1 billion for room, board, books and other auxiliary services; local governments, primarily counties making payments to community colleges, provided $0.8 billion; $1.2 billion was collected by university hospitals; private donors, including charitable and corporate foundations, provided $1.1 billion; $.07 billion was from miscellaneous sources; $0.4 billion came from endowments (almost entirely in the independent sector).

Capital investment in public and independent higher education is impressive, representing in land, facilities and equipment an amount estimated conservatively at some $25 billion.

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Cost of attendance

The out-of-pocket cost to a student to attend college in New York State can range from near zero, for students from low-income families, to $25,000 per year for students whose family incomes make them ineligible for student aid and who enroll in the most costly private institutions. Average tuition and fee charges alone ranged from a low of $1,913 in SUNY community colleges, to $12,118 in the independent institutions, in 1992-93. Compared to other states, New York public university resident tuition charges are near the average, are somewhat above average in the public colleges, and near the top for the community colleges.

To help students pay the costs of attendance, student aid is available from many sources. In 1990-91, the latest year for which complete information is obtainable, students received $464 million from New York State, by far the largest amount offered by any state, and nearly all based on need. In that year, students at New York's degree-granting institutions also received $383 million in Federal Pell grants; $875 million in Federal loans; $44 million in Federal Work-Study wages; and $729 million in institutional aid, mostly in the form of grants in the independent sector. With another $305 million from miscellaneous sources, the total aid received in 1990-91 at degree-granting institutions is estimated at $2.8 billion.

These numbers help demonstrate the importance of New York's student assistance program in promoting educational opportunity. The National Postsecondary Student Aid Survey (for 1986-87) showed that 94 percent of New York students from families with incomes under $11,000 received grant aid compared to about 80 percent in the nation, and that their grants from all sources averaged nearly $4,000 compared to $2,600 in the rest of the country.

Resident Undergraduate Tuition & Required Fees in Public Higher Education 1991-1992

	New York	National Average	Number of States Higher Than New York
Universities	$2,520	$2,404	18
Colleges			
Community Colleges	1,712	1,983	

Higher education: A major industry

The colleges and universities collectively are a major component of the State's economy. More than 210,000 men and women fill the teaching, technical, administrative and service jobs needed to operate these institutions. Including the multiplier effect of individual expenditures, direct payments by the colleges and universities for goods and services and by their employees represented a $37 billion contribution to Gross State Product in 1989-90, eight percent of the total State output of $463 billion. In many communities across the State higher education is the major local industry.

There is no good way to estimate the intangible contributions of higher education to the State's economy. We seem to take for granted the importance in economic and social life of the knowledge and skills of college and university graduates - the single largest contribution of higher education to economic well-being. Beyond that basic output, there is research that produces start-up enterprises and improvements in many more; and the overall contribution to the quality of life from a wide array of cultural, spiritual and social activities. The State's leadership in the cultural life of the nation is linked to its higher education institutions.

Individuals also, of course, benefit tremendously from higher education. In economic terms alone, in 1990 in the United States, average monthly earnings by level of educational attainment were:

High school graduate	$1,077
Associate degree	1,672
Bachelor's degree	2,116
Master's degree	2,822
Professional degree	4,961
Doctoral degree	3,855

On many other indicators of quality of life such as longevity, health and participation in civic affairs, more education makes a positive difference.

From the State's earliest years higher education has been one of the best investments of its people. The tangible and intangible returns have made higher education New York's gateway to opportunity, serving both residents

and the new millions who have entered life in America through the State of New York.

Today higher education faces a series of challenges that threaten to undermine its capacity to offer quality education to all who seek it, with a wide range of choice among institutions and courses of study.

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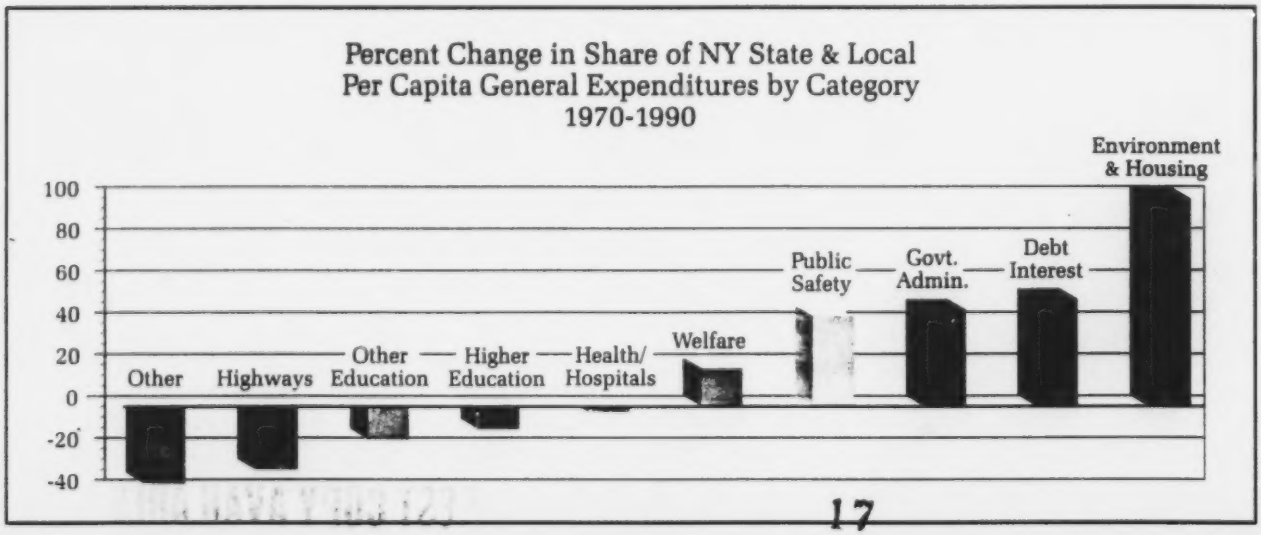
The Financial Challenge

There is first and foremost the financial challenge resulting from reductions in State and local funding and from steadily rising tuitions. After several years in the mid-1980s when the State maintained its investment in higher education with budget increases that reflected rising enrollments and inflation, recessionary forces in the region and the State led, at the end of the decade, to an acute financial crisis for the State and consequently for higher education.

From 1970 to 1990, in fact, the share of State and local funding allocated to higher education had fallen. While total state/local expenditures rose 61 percent during the period (in inflation-adjusted, 1990 dollars), expenditures for higher education rose 45 percent – considerably less, even though enrollments had grown more than one-third. Higher education's share within the total of State and local expenditures in New York fell 10.6 percent during the two decades. By contrast, shares for welfare *increased* 18 percent, public safety 43 percent, governmental administration 46 percent, state/local debt payments 51 percent, and environment and housing programs 99 percent.

The accompanying chart shows the dramatic changes that occurred in expenditures for major state governmental functions between 1970 and 1990, calculated on a per capita basis in 1990 dollars. During the 20 years there was a major shift of the State's resources *to* the environment and housing, interest payments on state and local debt, general governmental administration, public safety (including prisons), and welfare, *from* education and higher education (as well as highways and functions not individually identified).

In 1990-91 New York State tax revenues fell for the first time in many years. Midway in the fiscal year, major cuts were ordered in almost all State agency budgets including higher education. Sharp reductions in higher education appropriations were made again in 1991-92 and 1992-93. Adjusted for inflation, State tax fund appropriations for all higher education purposes were 8 percent lower in 1992-93 than in 1988-89 at the same time that enrollments rose substantially (in part because of a poor labor market).



Effect on public sector

The impact on the campuses has been very severe. In CUNY, though enrollments grew, full-time faculty and staff employment was reduced 17 percent (approximately one in six) in the senior colleges and 10 percent in the two-year institutions. For essential courses the University filled in with part-time teachers, who can be employed at lower cost; by fall 1992 more than 50 percent of all courses in the community colleges and as much as 70 percent in many departments throughout the University were taught by part-time people. In SUNY institutions, similar adjustments were made in full-time and part-time personnel. There remain instances in which available course sections, and even entire courses, cannot be staffed sufficiently to accommodate all students who need them in order to progress on schedule toward completing their degree programs.

Effect on private sector

The independent sector also has suffered from major reductions in Bundy aid (the State program of direct support to eligible independent institutions), a reduction in the maximum Tuition Assistance Program (TAP) award and accompanying reductions in income eligibility, and limitation or elimination of other assistance programs. To diversify their student bodies and also to help assure optimum enrollment, for a number of years the independent institutions have increased allocations for student assistance from tuition income by roughly 15 percent annually, a practice that, in addition to rising operating costs, drove tuition charges steadily upward. (In 1993-94, student aid funded from tuition income is expected to exceed $1 billion in the independent sector.) Even prior to the State fiscal crisis, independent sector tuitions had reached levels that seemed clearly to be discouraging enrollment.,

In virtually all institutions, library acquisitions and services have been reduced and progress in implementing advances in information technologies – key to library services today and in the future – has slowed. In every institution, maintenance and urgently needed replacements of facilities and equipment have been postponed until failures make their replacement or renovation essential whatever the cost. Both SUNY and CUNY estimate their requirements for capital renewal and adaptations of *existing* facilities and infrastructure to be in excess of $600 million each.

Increasing cost to students

To the student, the cost of going to college rose very rapidly in the 10 years 1983-1992. The Consumer Price Index increased 40.9 percent during these years. Setting aside student financial aid which moderates the impact of cost increases for the neediest students, average college-going costs (tuition, books and other incidentals for commuting students, plus room and board for resident students) on average much more than doubled in the independent institutions (114.3 percent). In these 10 years they virtually doubled (99.2 percent) at the SUNY state-operated campuses, and

rose 65.9 percent in the SUNY community colleges. Costs to the student increased 76.6 percent in CUNY senior colleges and 67.3 percent in CUNY community colleges.

The large reductions in State support that began in 1990 led to major tuition increases in the public sector. In four years between 1989-90 and 1992-93, SUNY and CUNY tuition and required fees nearly doubled; the average independent sector tuition rose another 25 percent on top of the high levels reached earlier. Failure of the Federal government to increase its grant programs to match increasing amounts of student need progressively shifted Federal assistance to the loan programs, adding to the burdens of future generations and to the obstacles to college attendance that confront the most economically disadvantaged and under-represented groups of students.

Financial challenge perspectives

From the perspective of higher education institutions, eroding public support and growing resistance to increased tuitions have created a crisis in their ability both to maintain program quality and to provide places for the increasing enrollments expected in coming years. They know that the impact of faculty not replaced, library books not acquired, facilities not repaired when needed, show up as diminished quality, reduced capacity and increased costs.

From the perspective of current students the erosion means fewer faculty and courses, more courses taught by part-time faculty or graduate students, difficulty in getting the courses necessary for graduation on schedule, fewer copies of required reading materials, out-dated and broken laboratory equipment, dilapidated buildings and unkempt campuses.

From the perspective of families of future students, increased tuition and decreased amounts of grant money (with more reliance on loans), adds to concerns about their ability to send their children to the college of their choice or perhaps to any college; a lowering of quality raises concerns about the likelihood of getting a quality education in a New York institution.

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Social, Work Force and Technological Challenges

Serious as is the financial picture, other changes occurring in society compound the challenges to higher education.

Since World War II New York's population, economy and work force have changed dramatically. The civil rights and women's movements, the end of the Cold War, the intensification of ethnic conflict, and transformations generated by computers and telecommunications all have had and will continue to have major impact on higher education. While the Commission could not do a definitive analysis of the implications of all of these changes, in coming to its recommendations the Commission particularly took into account major trends in the composition of future student populations, the changing nature of work force requirements, and the impact of computers and telecommunication networks.

Social Challenges

New York's population is diverse: in 1990, 14.2 percent were African-Americans; 12.3 percent were Latinos; 3.7 percent were Asian; 0.3 percent were Native Americans; and the remaining 69.5 percent were Caucasians, down from 75 percent only 10 years earlier. This strong shift resulted from a combination of differential birth rates and migration patterns.

During the 1970s the State experienced a large net out-migration – each year an average of 150,000 more people left the State than came in from other states or countries. During the 1980s, net out-migration slowed to an average of approximately 50,000 annually, but in spite of that loss, population rose slowly because people live longer and because births exceeded both the net out-migration and the number of deaths. This trend is expected to continue throughout the rest of this decade.

Even though growth has been slow, there is an underlying shift in the composition of the population that has significant implications for the work force and for higher education. During the last decade there was a substantial loss of longer-time residents and the arrival, mostly in New York City, of large numbers of immigrants, nearly 100,000 annually. Caribbean and Central American countries supplied more than 40 percent of the immigrants, Asia nearly 30 percent, and Europe about 10 percent, many from former Iron Curtain countries. The large numbers of immigrants account in significant part for CUNY's 1992 Master Plan enrollment projections of 25,000 more students by fall 2000. Because of immigration patterns and differential birth rates among population groups, New York's population will be even more diverse in the future than it has been in the past.

The Americans with Disabilities Act, passed by the Congress in 1990, expands employment opportunities for the disabled. The Act will produce additional demands for advanced education, thereby significantly increasing the numbers of disabled college and university students, many of whom require special provisions that will add to college costs. Appropriate response from higher education will significantly enlarge the pool of talent available to our society.

They will be more diverse than past student populations and they will face tougher challenges for jobs as a result of changing technology and the pressures of global competition.

The impact of all of these changes on college and university enrollments, and their interaction with economic conditions, is complex. The Education Department estimates that there may be as many as 73,000 more students by 2000. They will be more diverse than past student populations and they will face tougher challenges for jobs as a result of changing technology and the pressures of global competition.

Work Force Challenges

No one today can predict with certainty where the new jobs of the future will be. Since few in 1980 predicted the extraordinary growth in jobs generated by the development of the personal computer, it is reasonable to predict that in the decade ahead there will be similar discoveries, many coming from research universities, that will significantly alter the job market of tomorrow.

Although it is not possible to specify what jobs there will be, based on the work of labor economists, the Federal Bureau of Labor Statistics, the New York State Department of Labor and others, a number of circumstances affecting tomorrow's jobs which have significant implications for higher education can be described (see sidebar).

As a result of these changes, most people will need to change jobs and careers, some say seven times in a lifetime. Preparation to change jobs and careers may be even more demanding than preparation for initial employment. Obtaining needed education can be particularly burdensome for older workers with competing demands on their time.

Shaping Future Employment Demands

- The better jobs will have more information content, requiring high abilities and continuing learning.
- There will be a large proportion of "knowledge workers" in a work force composed of more professional and technical workers than any other occupational group. Almost all of the professionals will require baccalaureate or advanced degrees and continuing learning. Many of the technicians will get their initial training in two-year institutions and will continue training on the job. The New York State Department of Labor projects that professional and technical personnel may be nearly 24 percent of the New York work force by 1995.
- Even many blue-collar workers will be asked to process abstract symbolic information and to engage in procedural and mathematical reasoning in order to accomplish their work. Computer-integrated technologies demand that workers understand the larger production system of which they are a part and make decisions formerly reserved for occupations with professional or technical status.
- Telecommunications will allow more people to live and work where they choose, to mix work and education, to change jobs without changing location, and to acquire information and skills "as needed." These circumstances will challenge higher education institutions to create more non-traditional avenues for packaging and delivering instruction.
- Organizations that employ college graduates will rely on effective teamwork, emphasize rapid response to changing conditions and customer demand, expect high levels of responsibility from all employees, reward creativity, but provide less job security.

With some exceptions, higher education generally has not made adequate adaptations to serve older learners making mid-life changes. New information technologies, including electronic delivery of instruction, can help meet the diverse needs of an older student population at a reasonable cost. Programming developed for these students within the State can as well be delivered anywhere and become an additional source of revenue for the institutions.

The New York Department of Labor projects variable rates of growth among nine groups in which it categorizes the work force, with the fastest growth occurring in the groups that require the most education. Bureau of Labor Statistics data indicate *20 percent* more jobs in the nation in 2005 than in 1990, but *46 percent* more jobs requiring some college work. Projections indicate that there will be an ample supply of college graduates to meet the needs.

These circumstances place a premium on the quality of graduates. Workers will need to be highly competent in reading, writing, speaking and computation, as well as have skills in information management, problem solving

If New York educational institutions – secondary and post-secondary – fail to prepare people with the skills to match these changing conditions, businesses in the State will not be able to produce the quality of goods and services that domestic and foreign competitors can. If that happens, wages will drop, growth stagnate, and tax revenues decline.

and interpersonal relations. They will need to be able to work on teams, be adaptable and creative, and willing and able to continue learning. They will, of course, need mastery in areas of their specialization and many will need to be fluent in more than one language.

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Technological Challenges

As a result of recent advances in computers and telecommunications, the world is at the dawn of an information revolution that may well parallel the Industrial Revolution in its impact and far-reaching consequences. Almost every major industry is being forced to "reinvent" itself to remain competitive in a global economy. The higher education industry cannot and should not dodge that challenge. It is facing a generation of students steeped in technology. For its own sake and for the good of the culture, it should be a leader in the critical task of harnessing information technology to serve the needs of its students and to shape public expectations regarding appropriate uses of technology.

Though claims have been made for several decades that new technologies will have a major impact on education, the Commission believes that productive years of research and development, together with a global revolution in communications, have brought the claims to reality. The challenge to all of higher education and to New York State is to create ways and means to take advantage of the opportunities for increased effectiveness and efficiency offered by the new technologies. With leadership and imagination, the academic community will need to integrate the new telecommunications technologies in ways that are consistent with the enduring mission and core values of higher education.

A promising start on this path has been made in New York State. This past June Education Commissioner Thomas Sobol issued a far-sighted challenge to all education (*Telecommunications and Education: A Vision Statement*):

> *Our vision is that within the next decade, every New York State student from kindergarten through graduate school, teacher, librarian, researcher, administrator, and citizen will have full and equitable access to the entire range of information resources and technological services available in a fully networked environment.*

SUNY, CUNY and many independent institutions have made impressive progress toward realizing this vision. Most campuses can now share instruction via satellite from SUNY-SAT and are connected to one or more of the digital networks, NYSERNet, SUNYNet or EMPIRE NET. Faculty members throughout the State are experimenting with new multi-media instructional tools and with

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the delivery of instruction to students on other campuses or even at workplace or home. Academic libraries, along with the State Library and the New York Public Library, have computerized their catalogues and enhanced their services to increase electronic access to information.

Integration of technology is incomplete

However, with all of the progress, much remains to be done. Many campuses are not fully networked or connected to statewide, national and international networks. Most networks lack the reliability, capacity and functionality necessary to meet future needs. Many faculty and students have little or no access to computers. Most serious of all, not nearly enough has been done to integrate the new technologies into all aspects of higher education. Most faculty need training and support for investing time to review their approach to teaching and learning. Even with all the effort that has gone in to administrative applications of computers, much still can be done to reduce the burden of administration and gain economies in campus operations.

The Commission envisions a time when the State's entire system will collectively become a "virtual university" composed of individual institutions each with its own mission but participating fully in a statewide learning community without boundaries in space or time.

The Commission's recommendations are intended to accelerate the integration of new technologies. The Commission envisions a time when the State's entire system will collectively become a "virtual university" composed of individual institutions each with its own mission but participating fully in a statewide learning community without boundaries in space or time. Through its "gateway" students, faculty and scholars will enter a common world of information and share in the creation and dissemination of knowledge. To achieve this vision will require a collaborative effort by the entire system of higher education, public and private, in cooperation with government and private enterprise.

General state fiscal conditions are the most important single determinant of state support for higher education. As the Regents Commission has been meeting, the recession in the national economy has been arrested and some recovery has begun. In New York, State appropriations were modestly increased for higher education for fiscal year 1993-94. Some people think that the State economy has turned around.

The Commission, however, anticipates that states including New York face a decade of persistent fiscal stress. It expects that revenues from current tax systems will fall short of the expenditures required to maintain current services. One critical reason is Medicare, half the costs of which result from long-term care – and the population aged 75 and over will increase more than 40 percent in the 1990s. But corrections and K-12 education costs also will rise, as will State costs in mental health, environmental and other areas.

Economists have pointed out that many uncertainties and weaknesses confront New York State, including such external forces as the international economy and Federal budget policy. New York continues to lose population to the other states while receiving large numbers of immigrants. Its employment base grows more slowly than in many other states. A heavy social service load in New York arises from a substantial concentration of the poor: in 1990, when 7.6 percent of the New Jersey population lived below the poverty line (and 8.9 percent in Massachusetts, 11.1 in Pennsylvania, 12.5 in California), 13 percent of the people of this State were living below the poverty level. For New York City alone, the response just to the homeless costs more than a half billion dollars a year.

The Commission would be relieved and delighted to see signs that New York has turned the corner and that a strong recovery is building. It would be delighted to be able to believe that the State soon can and will restore the reductions that have occurred since 1989. Unfortunately, evidence for a clear and persistent turnaround is lacking. There appear, instead, to be reasons to anticipate State funding prospects not significantly better than the present, when the demand for public services outstrips the supply and when there is substantial public resistance to paying for public services.

Therefore, the Commission sets forth below a series of recommendations which, if acted on, hold promise of enabling higher education to make a convincing case for funding, not to do everything just as it was done in the past but to protect and enhance the investment by doing better and more of what is essential for the State's future.

Quality, Access with Choice, and Cost-effectiveness: A Triad of Goals

At least since the 1960s the State has supported through policy and funding the twin goals of quality and of access with choice. Cost-effectiveness has always been an important goal but, in financially easier times, it was subordinated to the other two. Today it must be clear to everyone that quality and access with choice can be achieved only in a system that is cost-effective.

1 **The Commission recommends to the Regents, City University of New York, State University of New York and the Boards of Trustees of private institutions that they treat cost-effectiveness as equal in importance to access with choice and quality, and that when assessing the contributions of current and proposed programs, full weight be given to cost-effectiveness.**

Gaining the Maximum Return from the Entire System

Continuing growth in demand for educational services in New York, on the one hand, and limits in tax funds and in tuition income, on the other, mean the only responsible option is to find ways to deliver instruction, service and research that conserve human and physical resources and are consistent with the funding that can be provided. Higher education has experienced resource limitations before but not to the degree experienced in the recent past and likely in the future. The Commission is convinced, as are the institutions and systems, that the cutbacks that have been made by the colleges and universities in order to sustain operations, cannot continue without progressive erosion in program quality as well as in student access and choice.

At all levels – State, system, institution, and school or college, division or department – there is the highest imperative not only to do things differently, but to do different things – to rethink assumptions about curriculum, delivery systems, organizational structures, and the mix of technology and personnel.

At all levels – State, system, institution, and school or college, division or department – there is the highest imperative not only to do things differently, but to do different things – to rethink assumptions about curriculum, delivery systems, organizational structures, and the mix of technology and personnel. More than ever it is clear that statewide needs can be met only by drawing on the strengths of every part of the system and insisting on collaboration to minimize inefficiency and duplication.

Mission Statements and Long-range Plans

Mission statements and long-range plans are an essential framework for institutional resource allocation decisions. Within the State's single system of public and private institutions, each institution needs a basis for understanding its own particular role and its contributions to the objectives of the entire system. Thus, every public institution should have a mission statement consistent with the mission of the system of which it is a part, and which has the approval of that system. Every independent institution should have a statement of mission that conforms with its charter. All institutions need multi-year plans directed to the goals and objectives stated in the mission, which specify priorities, and which (for public institutions) are consistent with plans and priorities of the system and which (for all institutions) are consistent with the Regents Statewide Plan for Higher Education.

These basic conditions for sound management are not currently being met. Too many institutions lack mission statements or statements that have been approved, or that have been used in a rigorous way in the formulation of long-range plans.

In the next Master Plan cycle the Regents should require mission statements from public and independent institutions and from the CUNY and SUNY systems, along with related long-range plans. The Regents should review these statements and report to the Governor and the public on their consistency with the Statewide Plan.

Collaboration and Sharing Resources

It is the nature of organizations to prefer to "go it alone" rather than to share resources. Successful collaboration takes time and energy that often are neither recognized nor rewarded. Unless there are clear advantages to all parties, collaborative efforts seldom succeed. However, in times of limited resources, the advantages are more evident – there simply are not enough resources for every institution to do everything for itself.

In New York, sharing of resources has grown rapidly and successfully among acad-

emic libraries, for example, and in the development of new communications technologies. Some institutions are offering joint degree programs and are sharing course offerings. Possibilities for productive collaboration are limitless, in teaching, research, community service and administration. The new technologies further extend opportunities for this resource sharing.

3

The Commission recommends that whenever new ventures are proposed or existing programs are reviewed on any campus, the possibilities for collaboration and resource sharing should be prime considerations. Contracting for services can often be cost-effective and can provide two or more parties a "win-win" option. Contracting between public and private entities, educational or otherwise, deserves consideration. State funding policies should encourage sharing by enabling institutions to retain resources saved through collaboration.

Collaborative programs linking higher education and business and industry are common, especially for community colleges and for universities that have established ties for research or community service. The shared interests that join higher education and business seem obvious: whether or not colleges and universities view preparation of students for employment as a primary purpose, there is no doubt that most students go to college in large part to prepare for work. Nor is there any doubt that the State considers higher education as a critical component in its economic development strategy and expects graduates to be prepared for employment.

The Commission believes that changing work force needs must concern the higher education community. There are important implications for the curriculum and for the ways in which faculty teach and students learn. There is a critical need and opportunity for higher education to help give direction to the development of information networks and capabilities. There are innumerable options in which linkages among institutions and governmental, not-for-profit, and business enterprises will serve the interests of all – as one example, in New York City, in helping keep the City an international center for all the arts.

4

The Commission recommends that public and private higher education institutions alike expand their relationships with business, industry, government and not-for-profit organizations in the many areas in which their respective interests are shared.

Doctoral and Advanced Professional Programs

Enrollments in graduate and first professional degree[1] programs are predominantly in independent institutions. For many decades a number of these institutions have been internationally recognized for their advanced graduate and professional programs; five of New York's six members of the Association of American Universities are independent institutions (Columbia, Cornell, New York University, Syracuse University and the University of Rochester).

Doctoral programs were initiated within CUNY and in the four SUNY University Centers (Albany, Binghamton, Buffalo and Stony Brook) about 40 years ago. In no one of the SUNY Centers nor within CUNY do these programs cover as broad a range as in some of the older private universities, nor is there within the SUNY or CUNY systems or in them collectively the comprehensive range found in the independent sector.

In 1984 SUNY established an Independent Commission on the Future of the State University. It found SUNY's chief academic

[1] First professional degree programs are those programs in which the first professional degree (such as medicine, law, dentistry) follows award of a baccalaureate degree. Thus, they do not include fields such as engineering, business, education, and nursing, in which a professional degree may be earned at the undergraduate level.

weaknesses to be in research and graduate and professional education, areas that the Independent Commission believed to "hold the key to career success for SUNY students and that are vital to New York's future economic development." That reasoning applies equally to CUNY. The reasoning was the basis for the decision of the Legislature in 1985 to include in the SUNY mission the charge to offer "a full range of graduate and professional education that reflects the opportunity for individual choice and the needs of society."

It was also the basis for the Graduate Research Initiative, which Governor Cuomo proposed and the Legislature funded in 1987 to accelerate the development of doctoral education and research in the two public systems. Considerable progress had been made in doctoral programs and research even before that Initiative was launched; in CUNY, for example, 10 of the University's 31 doctoral programs were ranked among the top 15 in the nation in the most recent ranking by the Conference Board of Associated Research Councils. About a year ago, the State University of New York at Buffalo was elected as the State's sixth member of the Association of American Universities.

However, the Independent Commission also recommended focusing of doctoral effort within the four SUNY University Centers, with Buffalo and Stony Brook developing "as resources for the system as a whole," and with Albany and Binghamton building on "their more selective strength" in graduate study and research.

5. **Because circumstances now constraining higher education growth demand restraint in the expansion of programs in public and independent higher education, the Commission recommends that, in current and future planning, all universities in the State review their programs and plans for doctoral and research programs in light of competing requirements for resources, and in light of current and prospective fiscal realities in both Albany and Washington. With respect to SUNY and, by extension, CUNY, we believe that the caution expressed by the Independent Commission is even more necessary today than it was in 1985. We believe that complementary and collaborative efforts within each system, between systems, and between universities in the public and independent sectors should be pursued.**

6. **The Regents should require that any proposals advanced in master plan or charter amendments to expand doctoral programming (graduate or advanced professional) be accompanied by a report that gives evidence as to the impact of the proposals on the system as a whole, including the discussions undertaken with other public and independent institutions potentially affected. The Regents should assess from a systemwide perspective the cost-effectiveness of any proposed expansions of programs at the first professional and doctoral levels, and should exercise their master planning authority to manage growth in the interests of the State as a whole.**

Taking Advantage of Strength in the Private Sector

The private sector of higher education in New York includes 139 independent colleges and universities and 26 accredited, degree-granting proprietary institutions. The independent colleges and universities are the oldest and numerically largest of the several groups of higher education institutions in the University of the State of New York. They range from small, single-program institutions to comprehensive research universities, and, in admissions policy, from essentially open-access to highly selective. The accredited

proprietary institutions offer occupation-oriented programs primarily at the associate degree and certificate levels, though several offer baccalaureate degrees.

These private sector institutions enroll over 40 percent of the more than a million college and university students in New York. In fall 1992, total enrollment in the independents was 404,000; in the degree-granting proprietaries, 28,000. The independents alone enrolled 39 percent of the students in the State and awarded more than 49 percent of the degrees conferred in 1991.

A healthy independent sector is cost-effective for New York because of the major contributions the sector makes to the education of New York students at all levels of higher education, particularly in graduate and professional fields. Of *all the New York residents* who attend college within the State, the independent and degree-granting proprietary institutions enroll a total of 35 percent – 30 percent of the undergraduates, 58 percent of the enrollments in graduate programs, and 77 percent of those in first professional fields.

Thus, on the sole basis of avoiding costs of educating New Yorkers who otherwise would enroll in public institutions, the independent sector is a bargain for the State. In part due to the large proportion of its residents enrolled in independent institutions, New York State's appropriations for operating expenses of its public colleges and universities are a smaller proportion of State and local tax revenues than in all other states except Massachusetts, New Hampshire and Vermont.

The State has encouraged the private sector with indirect support at least since 1913, when it established a system of Regents Scholarships which were available for use in any institution within the State. The objectives of student assistance programs adopted more recently have included preserving a strong independent sector: the Scholar Incentive Program in the 1960s; its successor, the Tuition Assistance Program (TAP) in 1974, which was to "help to assure that our students are not deprived of a meaningful choice between private or public higher education"; the Higher Education Opportunity Program; medical and dental support programs; and assistance for work study.

Bundy aid, the State's program of direct support to eligible institutions in the independent sector, was initiated in 1968 expressly to "help preserve the strength and vitality of our private and independent institutions of higher education." Throughout the 1980s, Bundy and other programs of direct assistance to independent colleges and universities were 6 to 7 percent of total State support for higher education.

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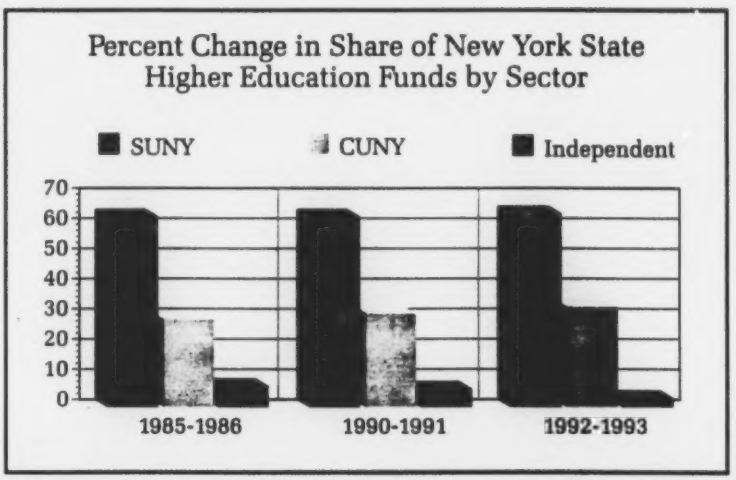
With the fiscal crisis in 1990-91, sharp reductions were initiated in most State programs, including programs that had assisted the independent sector. From a high of $198 million of assistance in 1987-88 representing 7 percent of State funds for higher educa-



tion institutions, direct aid for independent institutions was reduced to $85 million in 1992-93; the independents' share of direct support for all institutions fell from 7 to 3 percent. During the same years indirect support through student financial aid for students in independent colleges and universities fell from 44 to 39 percent of such assistance.

The Commission believes that the margin of assistance represented by the Bundy program and the Tuition Assistance Program is critically important in maintaining a strong independent sector, and in fostering choice for students interested in that sector. Furthermore, the basic concept of the Bundy program – a formula basing the amount an institution receives on the number of degrees awarded – is very well conceived. It provides some considerable incentive to do things that are in the interest of the State: accept transfer students, assist students to progress as rapidly as possible to degree completion, and shelter the State assistance from any possibility of political favoritism or influence.

7 **The Commission recommends that New York State re-establish its commitment in support of independent higher education by progressively restoring the Bundy program to its authorized level. In 1993-94, Bundy aid is appropriated at $36,000,000 whereas the State Education Department estimates the cost of a fully-funded Bundy program that year at $119,900,000. The Commission recommendation thus anticipates new annual costs that would reach approximately $84,000,000, to be phased in over a period of years.**

Maintaining Strength in the Public Sector

Public higher education in New York had its origins in 1844 with the creation of the State Normal School in Albany. In the 19th century additional public teachers colleges were established throughout the State. Support of the City of New York for higher education began with the establishment in 1847 of the New York Free Academy, forerunner of the City College. Until 1949 each of the State and City institutions stood alone. In that year the Governor and Legislature created the State University of New York by placing the upstate two- and four-year colleges in a coordinated system. The City University of New York was incorporated in 1961, drawing together the several colleges that the City had established.

Despite the early beginnings, not until the 1960s did the State initiate a serious program to develop public higher education by expanding existing public institutions, assuming control of a number of private institutions, and creating entirely new institutions. In 1960 nearly 60 percent of the undergraduates in public and private colleges in New York were to be found in the independent institutions and just over 40 percent in public colleges (18.3 percent in SUNY, 22.8 percent in CUNY). After 10 years of a major State building program, the proportions had been more than reversed: enrollment in the independent sector had grown by 50 percent but the sector's share of total enrollment had fallen from nearly 60 to 35.8 percent, by virtue of massive enrollment growth in the public systems. Enrollments had more than quadrupled in SUNY and nearly tripled in CUNY. There appears to be no stronger evidence of the need for public colleges and universities in this State than this dramatic response to the build-up of a strong system of two-year and four-year public institutions. (In subsequent years the distribution of undergraduates within the total system has remained similar to that achieved by 1970.)

The extent and impact of budget cuts within the public sector have been described above. The Commission has no doubt that further cuts would produce additional serious

damage to both quality and accessibility in these institutions. There is no doubt, either, that additional funds will need to be provided through tuition adjustments, more aggressive fund-raising in many institutions, and reallocation efforts by the institutions themselves, as well as additional State appropriations. These funds are necessary to restore a viable ratio of full- to part-time faculty, accommodate larger enrollments that will include even larger proportions of non-traditional students especially in the City University, move more aggressively in using new educational technologies, restore a continuing program of dealing with deferred maintenance, and meet other critical needs.

8 **The Commission recommends that resources be provided to CUNY and SUNY to maintain quality by increasing the percentage of full-time faculty, stabilizing student/faculty ratios, and providing a needed supply of courses and course sections to permit students to complete course requirements on schedule, among other teaching needs. A combination of additional State funding, tuition income, and reallocations of existing resources, will be essential to attain the support necessary.**

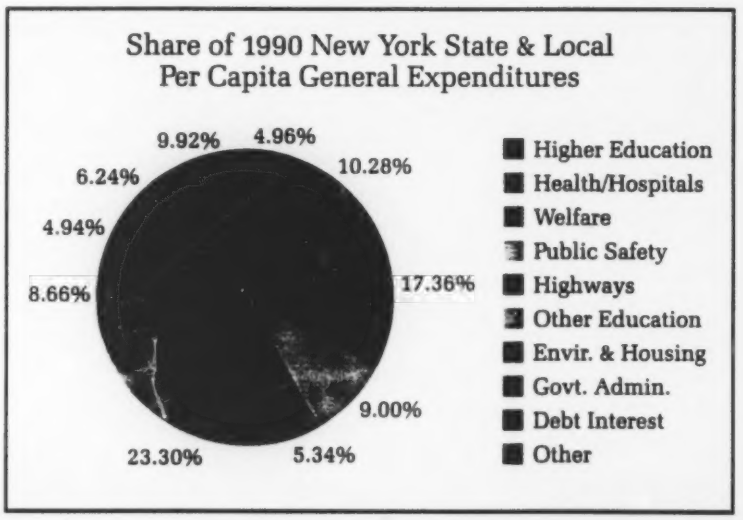
It is estimated that the replacement value of the State's capital investment in public higher education approaches $20 billion. The City University and the State University have assessed their current needs for critical maintenance and replacement to assure life cycle usefulness and the preservation of facilities at $600 million each.

9 **The Commission recommends that the State allocate resources to protect its investment in physical facilities. While capital construction needs that would derive from possible major enrollment increases cannot be ignored, the Commission recommends that particular attention be given to needs for deferred maintenance, for facilities upgrading, and for telecommunications infrastructure.**

Helping Students Choose: Career and College Choice

The State has an interest in assuring that there is an adequate labor supply in various critical occupations as determined by underlying market forces. Emphasis needs to be placed on providing good information about anticipated labor market requirements. Cooperation and good communication between higher education and the private, public, and non-profit enterprises which employ its graduates are needed, both with respect to future employment possibilities and the knowledge and skills for which employers will be looking.

10 **The Regents should work with the Department of Labor, the high schools, colleges and employers to assure that all students receive information early in their school years to help make wise career choices and educational program decisions. Every higher education institution, not only the community colleges, should provide avenues for effective communication with representatives of the enterprises to which they wish to send their graduates, in order**



both to serve their students effectively and to adapt curricula to changing employer needs.

Eliminating Arbitrary Barriers to the Flow of Students Through the System

Many students, especially those in part-time study, enroll with specific learning objectives that do not require a full degree program. Nevertheless, it seems clear that obstacles of many kinds slow student progress toward degree objectives and, in some cases, force students out of school at least for a period of time.

Headway has been made in eliminating arbitrary barriers to transfer, through articulation agreements between institutions and systems that spell out the terms of transfer, and through Trustee policies such as those adopted in the State University of New York, which guarantee enrollment of Associate of Arts and Associate of Science degree graduates of SUNY and CUNY at some institution within the SUNY system. But it remains true that particular courses at some institutions may fail to meet prerequisites of some courses in other institutions. Continuing efforts are needed to reduce problems of transfer through articulation of courses, orientation, counseling and special tutoring of transfer students coming from both two-year and other four-year institutions.

There is anecdotal evidence that in both public systems, budget cuts during the past three years led to shifts of faculty which in turn eliminated some courses, or the number of course sections, needed to enable students to fulfill degree requirements according to their schedules. While it is to be expected that students will not always be able to schedule courses on the days or at the hours they would prefer, it should also be expected that institutions will provide the numbers of places in courses required in the various degree programs so that students can progress on schedule.

There is too little information at the State level at this time about applicant pools, admissions, dropout/stopout, and timely progression to degree, to provide a basis for the Regents to identify and propose policies and programs to encourage student flow.

As a basis for State policies the Regents and the Education Department should obtain information that will permit the monitoring of student progress and identification of inappropriate barriers to the flow of students through the system. 11

The Regents should encourage public and private institutions to provide opportunity for students to accelerate their progress toward degrees through self-directed learning, technologically mediated instruction offered anywhere at anytime, credit by examination, and programs which permit college-level work during high school and masters-level work in the final years of college. The Regents should consider proposing a program of incentive grants for such policies and programs. 12

Achieving Equity

A continuing public policy goal is to achieve equity in employment for women and minorities. In spite of past gains, both women and minorities are seriously under-represented in the highest paying employment categories – just the ones that most depend on having a college degree. Given the demographic changes projected for the next decade, it is imperative to insure that minorities enter and complete degree programs in higher numbers and that they and women enter fields such as science and engineering that will be critical to the economic health of the State and nation.

New York supports Educational Opportunity Programs at CUNY (since 1966), SUNY (since 1967), and in the independent institutions (since 1969). The Opportunity Programs provide academic and financial support for edu-

cationally and economically disadvantaged students. Through 1990-91 more than 285,000 students had been enrolled; each year nearly 40,000 students participate.

In 1990-91 more than 46 percent of all opportunity program students were "on-track" – on schedule in degree programs in which enrolled. More than 56,000 students had graduated – virtually all being students who would never have enrolled except for the opportunity programs. For the program (HEOP) in the independent sector, 61.9 percent of the class which entered in fall 1987, had graduated or were in their fifth year by the end of 1991-92, exceeding the national rate for all college students. Clearly, the economic benefits alone of the opportunity programs are enormous for the State and the nation.

Funding for these programs was increased annually throughout the 1980s. In 1990-91 the State appropriation reached $50 million. During the next two years funding declined to $47.5 million, but it was increased to $51 million for 1993-94. In spite of the increases in State support and major increases in institutional grant aid, the proportion of student annual costs covered by all State, Federal, and institutional grant programs has declined from 66 percent in 1987-88 to an estimated 58 percent by 1994-95, leaving progressively larger amounts to be covered principally by loan programs. For opportunity program students, nearly 90 percent of whom are from families whose gross income (1990-91) was less than $15,866, loan programs may be a deterrent to enrollment and to steady progression to degrees. There are few measures more effective for reducing the cycle of poverty than access to education for children from low-income backgrounds.

13 **The State should concern itself with the increasing gap between student costs and the grant support that is available from all sources for students in its Opportunity Programs. While the State cannot be held responsible for failure of Federal programs to increase grant support parallel with increasing student costs, it should take all steps possible to avoid placing disproportionate burdens on institutions or students.**

Achievement of equity in higher education depends heavily upon improvements in elementary and secondary education. The Commission did not examine the status of elementary and secondary education in New York because it knew that the Board of Regents and many other agencies and organizations are doing so. All members were fully aware of the deep public concerns about the effectiveness of the schools and their ability to prepare youth adequately either for work or continued education. While recognizing that higher education has an important role to play in the reform of the schools, the Commission did not attempt to make specific recommendations in this area. Other of its recommendations are based on the conviction that efforts at reform must and will succeed so that, in years to come, college entrants will be better prepared for college-level work, and high school graduates who enter the work force directly will be equipped for on-the-job learning.

14 **The Commission recommends that higher education institutions work with elementary and secondary schools to ensure that minority students in significantly larger numbers understand that they will have access to higher education, and will be better motivated to complete high school and enter college. Colleges and universities should intensify the efforts to ensure that these students complete their degrees. They should continue to encourage and assist minorities and women to enter and complete programs in fields in which they are under-represented.**

Sharing the Costs

New York State's well-established policy is that no qualified person will be denied opportunity for a college education because of inability to pay. The policy has been implemented by maintaining low tuition in public institutions, supplemented by financial aid programs which also applied to independent institutions.

In accordance with that policy, for six years in the later 1980s, while tuition charges in public colleges and universities in the rest of the country were increasing an average of 9.2 percent annually, tuition in New York public four-year colleges did not go up at all. Then with the advent of the statewide fiscal crisis beginning in 1990, adherence to that policy eroded. Tuition rose sharply, beginning with a modest increase in 1990-91, with the result that by 1992-93 tuition was nearly double what it had been three years earlier.

This sudden increase seriously affected many students and families: it disrupted plans, aroused fears of continuing double-digit increases, and raised questions about continuing ability to afford college. Many people thought that these increases were excessive; in fact they simply brought New York's public college tuition to approximately the same relationship to charges in the rest of the country that New York tuition had held in the early 1980s. (Because State support per student had decreased between 1990 and 1993, the tuition increases by no means restored SUNY/CUNY funding to 1989-90 levels.)

Now, with tuitions rising and financial aid not keeping pace with increasing need, New York's historic commitment to access and choice is threatened.

Despite the spurt in tuition, New York has an enviable position among the states in reducing both geographic and financial obstacles to higher education. Its colleges and universities outnumber those in any other state. Its tuition charges in the four-year public sector have been moderate and its programs of student financial aid by far the largest in the country. The result: despite its large population of groups historically under-represented in higher education, New York has long been near the top in the ranking of states with the largest proportion of high school graduates going on to college. Moreover, in New York, college applicants have been given a reasonable choice of institutions that include those in the private sector, because a number of State programs have been purposefully directed toward making that choice possible.

In sum, New York has deemed higher education to be an investment which pays off for the State in returns to the economy and in the ability of its people to take positions of leadership in all walks of life. The investment pays off for individuals, too, so that sharing of the funding responsibility between government and individuals is to be expected. Now, with tuitions rising and financial aid not keeping pace with increasing need, New York's historic commitment to access and choice is threatened.

Tuition Policies

In the private sector, tuition is established by each institution. Over the past decade the average tuition at these institutions increased at a rate three times inflation, driven in part by increasing costs and in part by efforts to maintain enrollment and to diversify the student body through the allocation of large amounts of tuition income for student aid.

In the public sector, tuition is set by governing boards of trustees consistent with State appropriations. In four-year public institutions, following recent increases, tuition charges approximate one-third of the cost of education, a relationship to cost that is quite common in other states.

Student and family budgeting for costs in the public four-year colleges is made more difficult by the absence of a consistent State policy for determining tuition charges and for the timing of increases. Further, a question of equity may be raised when sudden, unusually large tuition increases cause students in the same programs, over a very few years, to pay very different amounts for their college education.

In the community colleges, tuition is established by each local board of trustees. The intent expressed in State law is that operating costs will be shared evenly: the local sponsor will provide one-third, the State one-third, and the student one-third. Since 1990, reductions in State assistance and in the amounts contributed by some local sponsors have led to charges to students in some colleges beyond the one-third target.

Community colleges are intended to serve as open-access institutions. In other states tuitions are very low both because they are usually set at a lower percentage of cost than in the four-year institutions and because operating costs in the two-year colleges generally are significantly lower than in baccalaureate (and higher) institutions. In contrast, the principle in New York of sharing costs equally among students, State and local sponsors has produced community college tuitions that have been very close to tuition in the senior institutions and that are among the highest community college tuitions in the country.

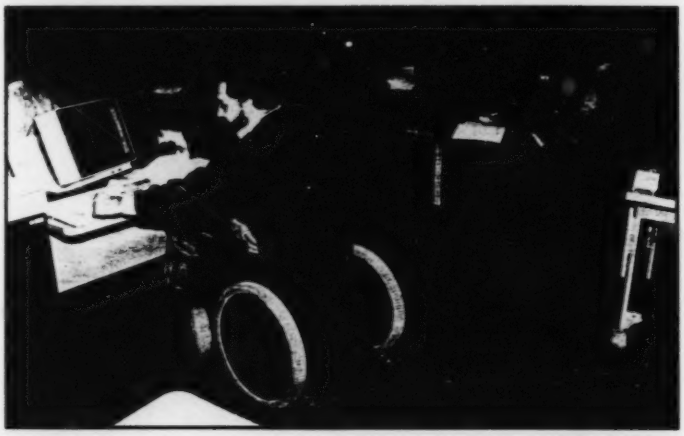
National tuition policy issue

A basic question concerning tuition policy in the nation today involves the "high tuition/high aid vs. low tuition/high state subsidy" issue. Proponents of a high tuition, high aid approach argue that this approach will cause families with higher incomes to bear a larger share of costs and, through more generous student aid programs, enable lower-income students to have greater access to college. A low tuition policy, they argue, increases the tax burden on those least able to pay, in order that the state may subsidize students who could pay more.

Advocates of lower tuition and higher state subsidies, on the other hand, argue that high tuition, even with substantial aid, discourages from college attendance many who are qualified but who are financially limited. They point out, too, that political support of the middle class for higher education depends upon accessibility – that middle class families believe that they have "bought" a lower tuition through the taxes they have paid. They also point out that evidence underscored during the past three years shows that legislatures raise tuition quite easily, but do not necessarily appropriate the additional funds required to increase student aid accordingly.

Containment of costs of operation, and of tuition and other costs to students, is a major challenge that must be addressed by all private and public institutions.

Within the Commission there were advocates of both positions and no final resolution for one position or the other. The Commission was concerned that rising tuitions in the State may discourage college attendance, especially



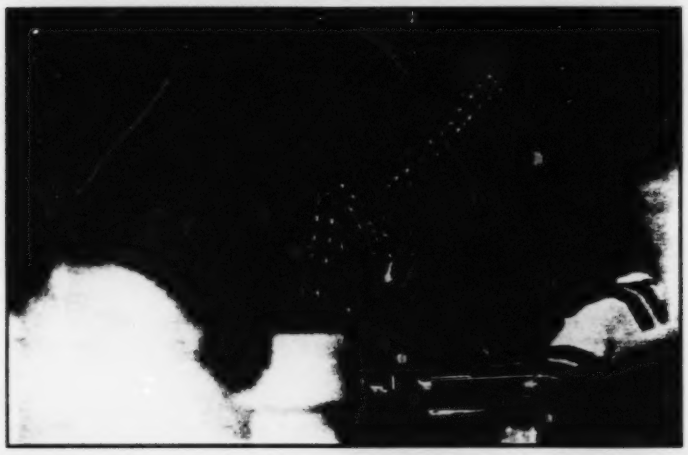
for lower-income students; that in the independent sector, high tuitions may lead institutions progressively to the discounting of tuition for increasing numbers of applicants, with the result that institutional financial strength is jeopardized; and that high tuition may cause students to choose institutions for financial rather than for educational reasons. It believes that containment of costs of operation, and of tuition and other costs to students, is a major challenge that must be addressed by all private and public institutions.

Tuition differentiation by institution type has served students well and has helped emphasize the important, differing roles of institutions within a total system of higher education.

Tuition by type of institution

A further policy issue is whether tuition charges should be set for groups of institutions having similar missions and generally similar educational costs, or whether as is now the case, within SUNY and within CUNY there should be one tuition rate for programs leading to the same degree.

The Commission notes that under the present policy, students in lower cost institutions are subsidizing their fellow students in the higher cost university centers because tuition in the colleges is driven upward by the higher costs of the university centers. The relative emphasis in the universities upon upper division and graduate-level instruction, which reflects the mission of those institutions, does increase the average cost per student. Nevertheless, students choosing a university center pay a significantly lower proportion of the cost than do students choosing colleges.



The Commission was informed that current policy is supported by most of the colleges because of their perception that, if college tuition charges were lower than in the university centers, students would regard the quality of college programs as inferior to those of the universities. The Commission believes, to the contrary, that tuitions in the colleges should be kept as low as possible; that students should be encouraged to enroll in institutions that fit the student's educational objectives rather than on account of status appeal; and that tuition differentiation by institution type has served students well and has helped emphasize the important, differing roles of institutions within a total system of higher education.

The Commission recommends that the following policies for public sector tuition be adopted:

Tuition adjustments in the public sector should be made on a regular annual or biennial basis in order to avoid large increases at unpredictable intervals. In the public four-year institutions tuition adjustments should be made with reference to student-related educational and general costs, and to tuition in comparable institutions. Other relevant factors include cost-of-living increases and changes in per capita income in New York. For the community colleges, statutory requirements cause tuition adjustments to occur each year. Local sponsors and the State should shelter students from carrying more than the one-third share of costs that already

brings community college tuition in New York to far above the national average.

16 **Tuition should be set for groups of institutions within the SUNY and CUNY systems that have similar missions or generally similar educational costs per student (university centers, senior colleges, community colleges). A common charge for groups of institutions having similar cost structures will help convey to the public the fact that different groups of institutions have differing purposes. It will contribute to the effectiveness and efficiency of the system and to the success of individual students by encouraging students to enroll in institutions which best fit their particular interests and needs. The Commission understands that this recommended differentiation is not permitted by present law and recommends that the law be amended.**

While some have argued that the State should raise tuition for non-residents in public institutions so that taxpayers are not asked to subsidize their education, the Commission believes that non-resident tuition should recognize the educational and economic values non-residents bring to New York, including the fact that many of them remain in the State for productive careers.

Similarly, some would like tuition for graduate and professional programs, which often are quite costly, to reflect educational costs so that, for some programs, the charges would be considerably higher than undergraduate tuition. The Commission takes the position that because of the diversity of programs and of the students in them, expectations of present and future earnings as well as societal needs should be taken into account in setting tuition in these programs.

17 **The Commission recommends continuation of current policy under which SUNY and CUNY establish tuition charges for non-residents and for graduate and first professional degree students.**

Student Financial Aid

Tuition Assistance Program (TAP). Nearly half of all New York residents who are undergraduate students in public and private colleges and universities in this State receive student aid through the State's Tuition Assistance Program. Given its well-distributed private colleges and universities, New York has created in TAP an admirable device through which the State supports access to the entire two-year and four-year public and private college and university system, taking advantage of the private college resource in a way that expands choice for

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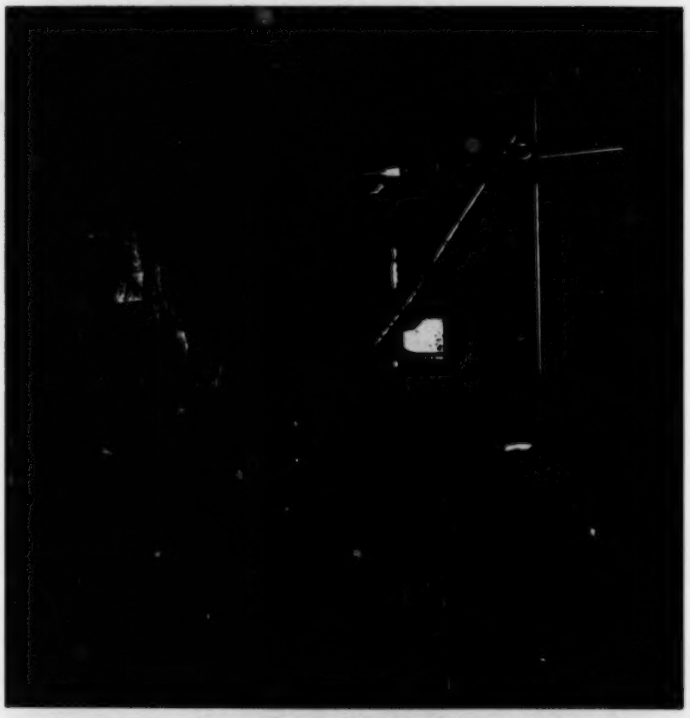

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students and provides services that are cost-effective for the State.

In public institutions, TAP grants reduce financial barriers and facilitate access – based on varying levels of student/family income, it provides a "sliding scale discount" to tuition. Below a stated income minimum, a TAP award covers all but the $75 that is paid by all students toward the full tuition charge. In the independent and degree-granting proprietary colleges, tuition charges are considerably higher, and in these institutions, TAP facilitates choice as well as access – it provides a tuition discount on a sliding scale that assists low- and middle-income students in choosing higher cost, non-public institutions.

To the extent that the independent and proprietary colleges supply places for New Yorkers that otherwise would have to be provided by public institutions, TAP leverages significant savings for New York taxpayers. The savings accrue because the State avoids paying a direct subsidy to a public institution, a subsidy which in the four-year sector in 1990-91 amounted to roughly $8,000 per student. As long as a TAP award for a student entering the private sector is less than the marginal cost of the direct state subsidy to a public institution, it is good sense economically for the State to maintain a reasonable relationship between the maximum TAP award and the State subsidy for public sector students.

When TAP was initiated, the maximum award ($1,500 in 1976) was 49 percent of average tuition in the independent institutions. In 1992-93 the maximum TAP award ($3,575) was an estimated 30 percent of average independent sector tuition. As tuition increased rapidly in the private sector, State assistance for student choice has rapidly diminished.

There is a further problem in preserving the power of TAP to help give New York students a reasonable choice. Since 1990, as reported above, SUNY and CUNY tuition levels have increased sharply. In both systems, tuition is less than the TAP maximum, so for students with major amounts of financial need, TAP has covered the increased tuition (except for the $75 minimum, previously noted).

Moreover, seeking to limit the State's ultimate financial obligation for this entitlement, the State in 1991-92 reduced the maximum TAP award from $4,125 to $3,575. This reduced the tuition benefit by $550 for all students receiving the maximum award – effectively meaning students in private sector institutions – and by amounts ranging to nearly $1,000 at some income levels on the sliding scale. As indicated, these reductions had special force in the independent and proprietary sectors, where unlike in public institutions, tuition is always higher than the TAP maximum. Thus, a result of increasing tuition in the public sector without increasing the maximum TAP award is a more rapid growth of the amount of TAP awards in the public than in the private sector.

To continue the benefit of choice that was intended for the program and is cost-effective for the State, the Commission recommends that the amount of the maximum TAP award be restored to its 1990-91 level, with appropriate adjustments in the income ceilings for awards. When that has been achieved, the maximum award should be adjusted in relation to cost-of-living so that the TAP support available to students with demonstrated need will be maintained at a level to assure access and choice. The Commission's recommendation assumes that the policy that all TAP recipients will pay the first $75 toward tuition will be continued at this time. The cost of this recommendation is estimated to be $52,000,000, based on the 108,000 TAP recipients in the independent and degree-proprietary sectors in 1991-92.

13

College and University Enrollment in New York, Fall 1992

(Full-time, Part-time, and Total)

	Undergraduate		First Professional		Graduate		Total		
	FT	PT	FT	PT	FT	PT	FT	PT	Total
SUNY	228,108	136,577	4,274	12	13,793	21,301	246,175	157,890	404,065
CUNY	106,440	70,455	456	8	6,246	19,014	113,142	89,477	202,619
Independent	219,030	54,324	19,609	2,368	41,071	67,593	279,710	124,285	403,995
Degree-Granting Proprietary	23,553	4,365	0	0	254	15	23,807	4,380	28,187
Total	577,131	265,721	24,339	2,388	61,364	107,923	662,834	376,032	1,038,866

Part-time students. In the City University and State University, in Fall 1992, 207,000 undergraduate students were enrolled on a part-time basis – nearly 40 percent of the 541,000 undergraduates in the two systems. More than 27 percent of the part-time undergraduates in the two public systems were minorities. Significant numbers of part-timers have family or other responsibilities, and financial circumstances, that preclude full-time study.

The Commission believes that a great many students who enroll for part-time study have severe financial need. New York State's program of Aid for Part-time Study (APTS) is a commendable one, but its $13 million appropriation is insufficient to assist many applicants. Though the authorized maximum APTS award is $2,000, the average grant is less than $1,000. Even at that reduced amount, student financial aid officers report significant numbers of eligible applicants to whom no grant can be made.

The Commission considered recommending alternatives through which part-time eligibility standards might be defined (such as a requirement that students have completed at least 25 percent of credits in a degree program), on the basis of which students meeting the criteria would qualify for participation in the TAP entitlement program, while the APTS program would continue to serve part-timers who could not meet those criteria. There appear to be disadvantages in creating a hybrid of this kind, a major one of which is that there is no way to estimate its cost, and some possibility that its cost could be several tens of millions of dollars. Under the circumstances:

The Commission recommends that the State continue to increase funds for Aid for Part-time Students (APTS) and as rapidly as possible reach the point at which eligible students receive the $2,000 authorized maximum award, with few if any eligible applicants being denied aid. The Regents and Higher Education Services Corporation should monitor the APTS program with a view to bringing part-time students within the TAP entitlement program if large numbers of eligible students continue to go unserved by APTS.

Graduate TAP. Although the amounts available to students through graduate TAP are small (about $10 million in 1993-94), they provide incentive and continuity for

students who have been able to complete undergraduate programs only by virtue of substantial financial assistance.

20 **The Commission recommends that the limited program of tuition assistance for graduate students be continued at present levels.**

Work-Study. Students have long found that they can supplement and reinforce learning while earning part of their college costs through part-time work in education-related jobs such as assisting faculty or tutoring, and in the business and non-profit, school or governmental sectors. To encourage the provision of education-related jobs, matching funds are provided by a number of states in addition to the Federal work-study program.

21 **The Regents should consider establishment of a pilot program to encourage students to earn part of their college costs through educationally-related work. Funds would be made available to campus student financial aid offices to provide jobs at the institutions and at community organizations, and would be coordinated by them with the Federal work-study program. The Regents' consideration should include the feasibility of making arrangements with business, nonprofit and governmental enterprises under which those enterprises would defray the full cost of the students' work. The pilot program should be evaluated by the Regents after three years to determine its cost-effectiveness, use and value to the students and to the institution or agency.**

Merit scholarships. The Commission believes that a scholarship program should be sponsored by the State to recognize the most able high school graduates in the State and to encourage their enrollment in higher education institutions in New York through financial inducements and appropriate recognition.

With the advent of the financial crisis in the late 1980s, all merit award programs in the State were terminated. The Commission understands the priorities that led to this result. At the same time, the Commission believes that this State should, when possible, sponsor again a program that recognizes and rewards students who excel in secondary school and who give promise of excelling in college and as citizens within the State of New York.

There is an additional special need and opportunity to encourage students from historically disadvantaged backgrounds to excel academically beginning at the earliest possible period of school attendance. A program assuring support for college attendance for such students graduating at or near the top of their class would provide hope and motivation throughout the earlier years of schooling.

The Commission understands that a merit award program will need to include a sufficient number of awards to give the program identity and stature. To help induce students to enroll within the State, the size of awards and eligibility for them will need to be considered. Nevertheless, the Commission believes that the State should encourage its most outstanding high school graduates to take advantage of opportunities within the State in order to encourage the students to remain for leadership roles within the State.

22 **The Commission recommends that a merit award program be defined and proposed by the Regents, to encourage the top five percent of each high school's graduating class to enroll in college within the State.**

Harnessing the New Technologies for Learning, Instruction, Libraries and Research

The New Learning Model

With the aid of new communications capabilities, some faculty have been creating interactive learning environments in which students have online access to instructors, to fellow students, to library resources everywhere and to local and remote databases. Most campuses are providing computing power to faculty and students. Many are creating campus networks and providing links to the world-wide information network, the Internet, and to other online information resources. As powerful new multi-media tools become available, some faculty members are using them to enhance classroom instruction, promote individualized learning, and facilitate delivery of instruction to students wherever they may be located.

Using these new capabilities, students are learning to do extensive study on their own and in collaboration with fellow students, to produce high quality reports drawing on the rich resources available online, and to share the results with others using a variety of multimedia formats. In the past there were always some students who experienced such self-paced and collaborative learning. The new technologies are opening this form of learning to most students so that it now is possible for higher education to shift from present labor-intensive, classroom-based, contact-credit models to models that are more learner-centered, location-independent and outcomes-based.

Networking also permits faculty members located on different campuses to collaborate for the purposes of designing curricula, delivering courses and sharing ideas about teaching and learning. Many faculty in the State are already "networked" with colleagues locally, nationally and world-wide. One result is a proliferation of projects involving groups of students in countries throughout the world.

However, there are large numbers of faculty who are not yet benefiting from these new opportunities because of insufficient equipment, training, time, and, in many situations, lack of encouragement and support.

To realize the full potential of the new technologies, the State should help assure that all faculty and students have "desktop" access to networked computing power and powerful but easy-to-use software tools. 23

To take advantage of the new technologies to help achieve improvements in teaching and learning, institutions should do what is necessary to restructure their organization, curriculum, graduation requirements and infrastructure. 24

To promote effective use of the new technologies, the Regents should establish a program to stimulate and recognize outstanding applications of new technologies to teaching, learning and research, perhaps by creating faculty fellowships and institutes for the design and dissemination of effective applications of new technologies to higher education. 25

Research and Laboratories

The new technologies, particularly networking, are also transforming the nature of research, the organization of research teams, and the publication, dissemination and evaluation of research results. Communication with fellow researchers via the network and electronic access to library resources and databases are becoming essential to effective research in most fields. Networks are greatly facilitating collaborative work among researchers in academic and industrial laboratories, thus accelerating the transfer of technology from laboratory to application.

The new technologies in addition affect the nature, quantity and cost of laboratory facilities required for instruction and research. Many introductory laboratory experiences,

including those where there are significant health or safety concerns, can be taught through simulations, with a possible reduction in the amount of required laboratory space. At the same time, computers, imaging systems and other advanced research tools are becoming integral to much experimental and applied work, thereby altering the nature of the physical space required and the costs of keeping up to date.

Building on the already successful Centers for Advanced Technology (CAT) program, the State should promote increased collaboration among scholars throughout the State's higher education system and between industrial and academic researchers.

Library and Information Resources and Services

The primary information resource of a college or university is its library. Using computers, networking and new imaging technologies, libraries are being transformed. Today the catalogues of many of the major libraries in the State and the nation, including the Library of Congress, are accessible online. Increasingly, abstracts and full documents can be similarly retrieved as more and more information is digitized and made machine-readable. This movement is driven in part by preservation imperatives resulting from the rapid deterioration of paper-based library holdings, in part by the acquisition and storage costs of traditional media, particularly specialized journals. The primary driver, however, is the growing recognition by scholars in all fields of the tremendous advantages offered by use of the new information technologies.

As information is computerized and made accessible online, the library is becoming more of a function than a place, with librarians becoming intermediaries helping others navigate the vast seas of knowledge and thought that the new technologies put on every desk top.

In this view of the future, all of the academic and other libraries in the State, including the State Library and the New York Public Library, can be functionally considered one information resource. Through shared effort there is no need to duplicate acquisitions or cataloguing unnecessarily. Whatever information is available anywhere can be available everywhere.

As the primary resources for the advancement of teaching, learning and research, the libraries of the State should be supported and enabled expeditiously to create an electronically-based networked information resource. Success in achieving savings through collaboration should be recognized in budget allocations to libraries. Even as new systems are put in place, the State should provide the funds necessary to preserve deteriorating, but historically important, paper collections and continue acquisitions of new materials in all formats as required by the library users of the State. The State Library, working with the State Archives, should be designated as the coordinating agency to work with the Library of Congress and other national agencies to insure that our full intellectual heritage is preserved for future scholars and students. This should include provisions for comprehensive collections of books, documents and journals in traditional forms, as well as providing for the appropriate preservation of electronically stored material.

The "Business Case"

In order for individual institutions and their students and faculties to take full advantage of the new technologies, campuses must be properly wired, connected to the telecommunications network, and equipped with

workstations and supporting facilities. To wire and rewire existing facilities and provide state-of-the-art equipment will be costly, but failure to invest in the necessary information infrastructure will be even more costly in terms of lost opportunities for significant improvements in teaching, learning and research and a diminished capacity to contribute to the well-being of the State and its people.

Moreover, it is not primarily the new hardware and software that will make the difference, but rather what people, primarily the faculty, do with the new tools. Using them merely to enhance lectures and expedite administrative tasks will not produce the kinds of instructional improvements and productivity gains that will justify the investments necessary to achieve the benefits of the new technologies.

In the final analysis, the "business case" for the investment in new technologies must rest on productivity gains, significant improvements in learning outcomes, and increased services to the community. The faculty must be central to this effort. Institutions must strive as they always have to attract the best people, nurture their growth, facilitate their work and encourage experimentation with new ways to promote learning that economize on precious human resources.

Unfortunately, investment in the new technologies is not just a one-time occurrence. For the foreseeable future, technologies will often become obsolete before they can be amortized in the traditional manner. Some of the burden of rapid change can be contained through sharing of experimentation, assessment, procurement and training, as well as by planned devolution of equipment from applications requiring state-of-the art capabilities to those that do not. However, higher education, like all advanced sectors of the economy, must be prepared for a continuing flow of funding to maintain its competitive position.

28 **The Commission recommends that information infrastructure be treated as a capital expenditure, given high priority, and funded, at least in part, through the capital budget. Institutions should routinely examine the need for new buildings or renovation of existing facilities in light of the probable impact of the new technologies on facility requirements. Technology enhancement and replacement should be integral to the budgeting of all institutions, along with training and technical support.**

In the final analysis, the "business case" for the investment in new technologies must rest on productivity gains, significant improvements in learning outcomes, and increased services to the community.

29 **The State should provide funds and encouragement for research on the information technologies themselves and for the systematic enhancement of existing systems as new capabilities are developed. To expedite application of the new technologies, the State should provide matching grants to institutions, perhaps on the model of the State University SCAP (Student Computing Access Program), which currently provides funds for student computers and support services. To qualify for grants, institutions should have an approved educational technology plan which should include provisions for full network access to faculty, students and administrators.**

Supporting Cost Effective Management

Identifying Strategic Indicators of Performance

For all aspects of their operations, institutions need to compile performance information which, through comparison with information from comparable institutions and from their own institution over a period of several years, will enable managers to assess progress and problems. A wide range of indicators pertaining, for example, to revenues, expenditures, students, faculty/staff, physical resources and other elements may be identified. To illustrate, indicators relating to revenues might include tuition and fee income as percent of total revenue, or state appropriations as percent of total revenue; with respect to expenditures, academic support expenditures as percent of total current fund expenditures, etc.

For any institution, indicators must be chosen with the mission, activities and special characteristics of the institution in mind. Similarly, the performance numbers appropriate for differing institutions will vary with varying circumstances. There is no one "correct" number for a student/teacher ratio, proportion of applicants who completed high school in the upper quarter of the class, or many other possible indicators. However, careful selection of performance targets by presidents and governing boards, and regular assessment of performance in relation to those targets, will provide managers and governing bodies with insights about institutional health which are crucial for effective management.

The Commission recommends that presidents and trustees of private and public institutions identify strategic indicators of institutional performance relating to program quality, accessibility and cost-effectiveness; collect information needed to assess performance on these indicators; and regularly review and report on their performance. As part of the master planning process, the Regents should identify and report on indicators that provide a comprehensive assessment of the health of the higher education system as a whole, and the extent to which the system is meeting the needs of the State and its people.

Increasing Managerial Responsibility, Authority and Flexibility

In the management of public higher education there is a natural tension between state executive branch authorities, who expect to specify what they intend to "buy," and the governing bodies and executives of the colleges and universities who find that budget, personnel, or purchasing and other standards and procedures that are applied to other state agencies often stand in the way of efficient operation of

Enrollment of New York State Residents
Attending In-State Institutions, Fall 1990

		SUNY		CUNY		Independent & Proprietary		Total
Undergraduate	FT	215,138		92,277		195,263		
	PT	135,405		73,156		22,458		
	Total	350,543	47.8%	165,433	22.5%	217,721	29.7%	733,697
1st Professional	FT	4,052		399		13,038		
	PT	9		5		2,064		
	Total	4,061	20.3%	404	2.1%	15,102	77.2%	19,567
Graduate	FT	8,550		4,264		17,887		
	PT	20,940		18,085		52,541		
	Total	29,490	24.1%	22,349	18.3%	70,428	57.6%	122,267
	TOTAL	384,094	43.9%	188,186	21.5%	303,251	34.6%	875,531

a college or university. The circumstances can lead to "micromanagement" by state authorities too distant from the firing line to perceive the full costs and benefits of specific decisions, and to a confusion of responsibility for effective operation and accomplishment of the objectives of the institution.

Important steps were taken in New York in 1986 in the University Operating Flexibility Act to provide increased operating autonomy for both SUNY and CUNY. Subject to certain limitations, the two systems were given authority to transfer funds between programs and campuses without approval of the State Division of the Budget, and increased authority both in personnel management and in purchasing. The systems advise that "management flexibility," as the legislation came to be known, has made numerous program improvements possible and helped in managing the severe budget reductions of the last several years to minimize the damage.

In stressing cost-effectiveness as an objective equal to the objectives of quality and access with choice, the Commission must stress also the importance of placing educational decision-making in the hands of educators on the scene. Those responsible for management must have authority to make difficult decisions, and in a timely manner, if cost-effectiveness goals are to be achieved.

Authorizing institutions to use unbudgeted tuition revenue within State guidelines (as from an unanticipated surplus enrollment), which was provided in the budget bill for 1993-94, was a desirable step toward empowering institutions to exercise responsibility for effective and efficient management. Authority to roll forward year-end balances would help achieve this objective. Increasing the minimum threshold for competitive bidding for CUNY to place that institution on an equal footing with SUNY would serve this purpose.

The Commission recommends that the State encourage and reward productivity increases in the public systems by allocating a portion of such savings to institutional control. Performance benchmarks should be established which are agreed to by the institutions and State budget authorities. 31

A target budget of the current year allocation plus inflation and negotiated salary increases might be assumed (calculated on an FTE Student basis). Savings thereafter realized from that target would be shared between the institution and the State on a progressive formula, such as:

In stressing cost effectiveness as an objective equal to the objectives of quality and access with choice, the Commission must stress also the importance of placing educational decision making in the hands of educators on the scene.

	Institution	State
Less than 3 percent	50	50
Three to 5 percent	75	25
More than 5 percent	90	10

The Commission recommends further that State policy bodies establish guidelines and policies with respect to enrollments, predictable State support, reporting and post-audit functions. As these are established, the two public University systems should be given full authority for managing expenditures and operational income, including tuition. This same authority should be extended by the State for managing capital expenditures and improvements by the respective Boards of Trustees. 32

Telecommunications

The ability of New York's higher education system to implement many of the recommendations in this Report will be enhanced by the availability of a nationwide high-capacity, high-performing telecommunications system. At present there are multiple networks

serving the various parts of the educational system and others that serve various State agencies and the private sector. Such duplication increases costs and reduces effectiveness.

The Commission is gratified by Governor Cuomo's initiative in establishing the "Telecommunications Exchange" to bring all parties together to create an advanced telecommunications system for the State. Representatives of the Regents and higher education are playing an active role in this effort.

33 **The Governor's Telecommunications Exchange should give high priority to the telecommunications requirements of public and private higher education. In the creation of the new networks the State must endeavor to satisfy both the high-end needs of researchers and the high-volume needs of most other educational users. Neither need should be sacrificed in favor of the other.**

34 **The Board of Regents should use its authority to insure that all networks serving the educational and cultural institutions in the State are interconnected and interoperable so that information can flow without restriction among them. The education network(s) must also be fully compatible with, if not an integral part of, any statewide and national networks that may be developed.**

Administrative Applications

Computer technology has long been used to automate many campus administrative functions, but has been used less to reduce faculty administrative burdens, such as manual grade-keeping and reporting, and preparation of departmental reports and advisement records. When all faculty and administrators have computers on their desks and connections to a campus network, considerable gains in faculty productivity can be realized.

Through networking, individuals with similar functions on many campuses (deans, academic vice presidents, computer center directors, etc.) can "meet" to share information and plan coordinated activities. Many of the administrative functions of faculty, including service on committees, can be performed effectively through the use of local networks. Increasingly most administrators (and faculty) will find themselves performing dual roles – on the local campus and as members of working groups engaged in system-wide activities.

Presidents and senior administrators play a key role in moving toward a functional networked campus. When they use network tools in their day-to-day work, the rest of the campus will quickly follow.

Another source of productivity gains can come from the increased use of electronic documents, both on each campus and by the State Education Department and the central offices of SUNY and CUNY. These latter annually require institutions to submit large numbers of forms and other documents. Almost all of these are now produced in electronic form and some are transmitted electronically. Considerable economies in production costs and from avoidance of errors can be achieved by requiring that all submissions from the campuses be in electronic form. Such a requirement would have the additional benefit of initiating all of higher education to the advantages of networking.

35 **Senior administrators should move speedily to take advantage of the capacities of the networked campus and make certain that all those on campus who must communicate with them have the capability to do so. The State Education Department, CUNY and SUNY should move expeditiously to receive and manage all required forms and reports electronically. For this purpose they should establish documentation standards that facilitate efficient transfer of documents over the network.**

CONCLUSION

In concluding this Report, we want to emphasize a few key findings:

- Higher education is one of the most vital functions in our society because of what it contributes to individual well-being and to the State's capacity to play a major role in the global economy and national and world affairs.
- All sectors of higher education – public, independent and degree-granting proprietary – are integral parts of the total system and for reasons of effectiveness and efficiency, must view themselves and be treated as such.
- For the foreseeable future, State revenues and family resources are going to be limited, with higher education having to compete with other powerful claimants for public and private funds.
- Though it is appealing to think of returning to a time of no or low tuition, higher education will be able to carry on its work in the future only if students and families pay a reasonable share of the costs through tuition.
- To meet its obligations within resource constraints, higher education will have to address basic questions of mission and restructure itself, retaining what is best from its long traditions, eliminating what no longer has compelling justification, and creating new ways of delivering its services to students and the community.
- To meet the severe challenges of the future, higher education must take maximum possible advantage of the power of new technologies.
- In support of higher education's efforts to achieve economies and greater productivity, the State should empower higher education to manage its affairs.

As the Commission talked about the place of higher education in New York we found it helpful to think of higher education collectively as an industry, while recognizing that in important respects it is not an industry. Like any industry:

- it is an employer, a huge one with more than 210,000 employees;
- it contributes to the State's economy, producing by itself eight percent of the State's economic product;
- it adds value to the resources it employs (knowledge, buildings, land, equipment) by converting them into products (graduates, knowledge and service) that the society needs;
- it depends for its survival over the long run on satisfying its "customers" – students, families who pay the bills, other participants in its programs, employers who depend on its graduates to meet their needs for well-trained workers, and government that expects it to contribute to the economic and cultural well-being of the society.

It is an industry that offers opportunity for over one million students every year to lay the foundations for productive lives, and for thousands of scholars to seek new knowledge for the benefit of current and future generations.

Higher education is unique in that, along with all of education, its efforts affect the lives of every person and segment of society. Whereas in the Industrial Age the same could have been said of the energy industry, in the Information Age higher education supplies the fuel – knowledge – that powers almost every enterprise, including government.

Higher education is most unlike other industries in that it does not exist to satisfy short-term consumer needs, nor is its bot-

tom line profit, but rather the advancement of learning, wisdom and truth – enduring values that together are the very underpinnings of a humane society. In today's world of limited resources, higher education must subject itself to more bottom line accountability than it has in the past, particularly to ensure that where cost-effective measures are appropriate, they are used. But it has a legitimate claim to be judged by other measures as well, measures that only peers can apply. It is to protect higher education from inappropriate measures that our society has, wisely, instituted a governance system largely independent of political influence, and has maintained the principles of academic freedom and faculty tenure.

Like many other industries, higher education is faced with severe challenges to its continuing capacity to produce at the levels of quality essential for the State's well-being in the future:

- challenges from an erosion of State support;
- challenges because its prices are rising faster than other costs of living and faster than customers believe they should;
- challenges from the pace of social and technological change;
- challenges from possible competitors who may use the new technologies to deliver "products" that may in many ways seem similar to those provided by colleges and universities.

Success in meeting the challenges can come only if every partner does its share:

- **the Regents**, by providing leadership to foster far more cooperation and resource sharing than in the past within New York's excellent system of public and private higher education;
- **higher education**, by reviewing its offerings, reducing or eliminating programs no longer needed, increasing cooperation, promoting student progress toward degrees, making better use of facilities, integrating new technologies, and streamlining administration;
- **families**, by creating a learning environment in the home from the earliest years, and bearing a fair share of the costs;
- **students** of whatever age, by setting clear learning and career goals, pursuing them vigorously, using time and resources productively, and sharing the costs of their education;
- **business**, by sharing its knowledge and resources with the colleges and universities, articulating its needs for educated personnel, and sharing in the costs;
- **the State and other governments**, by recognizing higher education as a vital investment and by providing the support and systems of accountability necessary to assure a high return on that investment.

In 1993 it is timely for all partners to affirm their commitment to do their share to protect New York's collective investment in its higher education resources. For none will this be easy or without cost. Unthinkable as failure may be, the consequences of failure would be immeasurable and, for our children, a catastrophe that no one should be willing to contemplate.

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A list of bibliographic references may be obtained from:

New York State Education Department
Office of the
Executive Deputy Commissioner
Education Building, Room 125
Department B
Albany, New York 12234

Report printed on recycled paper.

New York State Regents Commission
on Higher Education

c/o New York State Education Department
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Albany, New York 12234